

Digitized by the Internet Archive
in 2011 with funding from
University of Toronto

G. F. Brindley
THE
DENTAL NEWS LETTER:

A QUARTERLY PUBLICATION,

DEVOTED TO THE

INTERESTS OF THE DENTAL PROFESSION.

EDITED BY

J. D. WHITE, D. D. S., M. D., & J. R. M'CURDY, D. D. S.

VOLUME VII.

JONES, WHITE & M'CURDY,

PUBLISHERS AND PROPRIETORS,

No. 116 ARCH STREET, PHILADELPHIA; No. 263 BROADWAY, NEW YORK;

No. 3½ TREMONT ROW, BOSTON.

INDEX

TO THE

SEVENTH VOLUME OF THE DENTAL NEWS LETTER.

Dental Patents, an Essay, by Prof. E. TOWNSEND,	1
Electro Plating,	13
Inaugural Thesis, on the Treatment of the Exposed Dental Pulp, by Prof. J. D. WHITE,	14
Warping of Plates in Soldering, by W. E. IDE, M. D.,	22
Reproduction of Bone and Enamel, by W. D. PORTER, and remarks on same, by EDITOR,	26
The Regulation of Teeth, by T. W. EVANS, M. D., D. D. S.,	28
Mechanical Dentistry, by Prof. T. L. BUCKINGHAM,	33
Freak of Nature, by J. F. TERRY,	38
Philadelphia College of Dental Surgery, by D. B. WHIPPLE, Demonstrator,	39
Report of Proceedings of the Fourteenth Annual Meeting of the American Society of Dental Surgeons, held at West Point,	40
Dentistry in Bavaria, by B. COHEN,	44
Insertion of Teeth upon Platinum Pivots, by F. FULLER,	45
Treatment of Dental Caries, complicated with Disorders of the Pulp, by Prof. R. ARTHUR,	48
Memoirs on a few Fundamental Points of Dental Medicine, etc., etc., by A. F. TALMA, M. D.,	52
Editorial:—Salutatory.—Enlarged edition,	59
Dr. S. P. Miller and his Review,	60
Dentists in New York City—Annual Announcements,	61
Some additional facts in Relation to Continuous Gums,	62
Dr. T. W. Evans,	63
A New Work on Dentistry—The Semi-Annual Dental Expositor—J. Smith, M. D.—To Correspondents,	64
On the Regulation of Teeth, by T. W. EVANS, M. D., D. D. S.,	65
On the Nerve Cavity, by J. F. B. FLAGG, M. D., D. D. S.,	75
Dentistry in France,	80
Audi Alterem Partem, by Wm. A. PEASE, Dentist, with remarks by EDITOR,	81
Extracts from a Thesis on the Restoration of Hearing, by the Insertion of Artificial Teeth, by J. S. GILLIAMS, M. D., D. D. S.,	88
Mendi Mission, the Teeth of the Natives, by J. C. TEFT,	90
Periodontitis, by D. B. WHIPPLE, M. D.,	91
Proceedings of Pennsylvania Association of Dental Surgeons,	94
Professional Success,	95
Regeneration of Nerves,	96
Notes from my Case Book, by Prof. J. D. WHITE,	97
An Improved Plan of Making Zinc Casts, (with cut,) by B. R. Taber,	100
Irregularity of the Teeth, (with cuts,) by Prof. J. D. WHITE,	101
Plugging Teeth over exposed Nerves, by J. LEE, M. D., D. D. S.,	104
Warping of Plates, by J. LEE, M. D., D. D. S.,	105
Travelling Dentist—Excision of the Lower Jaw,	106
Editorial:—Risodontrypy,	107
Dental Chemistry and Metallurgy,	112
Yellow Fever in Philadelphia—Obituary—Dental News Letter—A New Spirometer,	114
Our Exchanges—New Works,	115
The Preservation of the Teeth, etc.—Block Work,	116
Dentine—The New Enamel or Dentifrice, by SAMUEL SIMES,	117
Deaths from the Inhalation of Chloroform,	118
Spontaneous Inflammation of Alveolo-dental Membrane, by Prof. C. A. HARRIS,	121
Upon the entire Resection of both Superior Maxillary Bones,	123
Case of Carcinoma of the Right Side of the Upper Jaw—Removal—Recovery,	126
Exostosis,	127
Springing of Plates before soldering,	128
Ice as a Local Anæsthetic,	128
Valedictory to the Graduating Class of the Philadelphia College of Dental Surgery, by Prof. E. TOWNSEND,	129

Mucous Engorgement of the Maxillary Sinus, by W. C. STARBUCK, jr.,	133
A New Non-Conductor for Capping Dental Nerves or Tender Teeth, by C. A. DU BOUCHET, M. D., D. D. S., with remarks by EDITOR,	133
Freak of Nature, by "H." with remarks by EDITOR,	143
Awards at World's Fair—Communication from Dr. E. PARMLY—Committee's Report—Remarks by EDITOR,	145
Valuable Mouth Wash or Gargle, by D. B. WHIPPLE, M. D.,	154
Crystallized and Sponge Gold, by C. W. BALLARD, with remarks by EDITOR,	155
Removal of a Large Portion of the Superior Maxillary Bone, and Floor of the Antrum, by R. A. MILLER, D. D. S.,	158
Cases of Treatment of Dental Pulp, by J. D. WHITE, M. D., D. D. S.,	160
Memoirs on two Fundamental Points of Dental Medicine, etc., by A. F. TALMA, M. D.,	161
Removing Teeth from Plates, by G. W. H. WHITTAKER,	165
On the mutations of the Inferior Maxillary Bone—an Essay, by W. STORER HOW, D. D. S., with remarks by EDITOR,	166
Folding Gold Foil, by RICHARD BARRETT,	172
Sponge Gold, by Prof. E. TOWNSEND,	173
New Method of Soldering, (with cut.) by NICH. HACKWORTH,	175
Anomalies of Dentistry, by H. GERHART,	176
Hardening Cast Steel for Cutting,	176
Dental Patents, by W. E. MAGILL,	177
Cataract; Definition, various modes of origin, etc.,	182
Absorption of Dentine, by J. D. WHITE, M. D., D. D. S.,	188
Editorial:—To Correspondents—Commencement of Philadelphia Dental College,	190
Sponge Gold,	191
Saliva Pump—Additional Exchanges—The Family Dental Journal,	192
Notes from my Case Book, by J. D. WHITE, D. D. S., M. D.,	193
Essay on Arsenic, by S. W. FRAZER,	196
On Hemorrhage, by J. F. LEAMING,	201
A New Method of Making Block Teeth, by W. CALVERT, D. D. S.,	203
Review of Audi Alterem Partem, by A. S. TALBERT,	206
On Filing Teeth to Relieve Pain produced by Pressure in their Development, by W. H. BAKER, M. D.,	210
A Sketch of the Life of Dr. J. F. Flagg of Boston, by his brother, Dr. J. F. B. FLAGG,	212
Mississippi Valley Association of Dental Surgeons,	216
Dentition—Its Connection with Irregularity,	217
Soldering Teeth, by T. D. INGERSOLL,	220
Irregularities of Teeth, (with cuts), by H. S. BURR, M. D.,	221
The Practice of Dentistry in Portugal, by W. C. STARBUCK, jr.,	222
Continuous Gum Teeth—Inquiry and Answer,	224
Woman's Mouth, (Poetry), by W. T. TINKER, D. D. S.,	225
Awards at World's Fair, by C. C. ALLEN, M. D., Dentist,	226
Communication from J. G. AMBLER, Dentist,	233
Alloying Gold for Dental Purposes, by Prof. BUCKINGHAM,	234
Editorial:—Sponge Gold,	238
American Dentists Abroad,	239
Epidemic Toothache,	240
Block Work,	241
Porcelain Teeth.—Some Facts in Connection with their First Manufacture abroad and at home, and the extent of their Manufacture at the present time, in our own country,	242
American Journal of Dental Science,	250
What Was It?—Third Annual Announcement of Philadelphia College of Dental Surgery,	251
Revolutions in Mechanical Dentistry—Dentists' Elevating Spittoon—Dr. Parmly, etc.,	252

THE DENTAL NEWS LETTER.

VOL. VII.

PHILADELPHIA, OCTOBER, 1853.

No. 1.

For the Dental News Letter.

DENTAL PATENTS.

An Essay read before the "American Society of Dental Surgeons," at their Annual meeting held at West Point, August 3d, 1853.

BY PROFESSOR E. TOWNSEND.

MR. PRESIDENT AND GENTLEMEN:—I have chosen Dental Patents for the subject of my address, on account of its great and pressing importance to the profession.

Aware of the state of the discussion among us, and duly attentive to the interests and feelings involved in it, I will endeavor, while I treat it with all the frankness and earnestness which its practical bearing upon our common welfare demands, to keep the merits of the question simply and steadily in view, and to avoid, as much as the best intentions may enable me, every thing that tends to disturb that clearness of apprehension and dispassionate soundness of judgment which are essential to the discovery and reception of truth, especially on questions in themselves somewhat difficult of demonstration, and distorted besides, by the controversial commitments of a partizan warfare.

To get the premises of the proposed investigation clearly and safely before us, I avail myself of the authorities which I shall name and quote for the definitions, descriptions, and admitted principles which I suppose are involved in it. Bouvier's Law Dictionary says, "A patent for an invention is a grant made by the government of the *United States* to the inventor of any new or useful art, machine, manufacture, or composition of matter, or any new and useful improvement in any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof; and not, at the time of his application for a patent, in public use or on sale, with his consent or allowance, as the discoverer or inventor; securing to him for a limited time, therein expressed, the full and exclusive right and liberty of making, constructing, using and vending to others the said invention or discovery, on certain conditions, among which is the one of at once giving up his secret, and making public his discovery or invention, and the manner of making and using

the same, so that at the expiration of his privilege it may become public property.”—2*d* vol., 232, 1*st* ed., 1839.

The clause in the Federal Constitution, in pursuance of which our patent laws have been framed, is the 8th clause of Article 1*st*, section 8th, in which it is declared that Congress shall have power “to promote the progress of science and useful arts, by *securing*, for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries.”

The points to be remarked here, for our purpose, are, that the laws of the United States do not protect a discoverer or inventor in the exclusive right to his discovery or invention beyond the period of fourteen years, except in the case where he may be able to satisfy the Secretary of State and Commissioner of Patents that, without any default of his own, “he has failed to obtain by the sale thereof, a reasonable remuneration for his time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use,” (*Bouvier*, 2*d* vol., 239,) and in that case only according to the 18th section of the Act of Congress of the year 1836, the patent may be extended for the term of seven years longer, making twenty-one years, the utmost limit of the privilege in any case.

And I learn also, from competent authority, that no decision has ever yet been made in the United States by which the right to a discovery or invention has been protected by damages against infringement by any other form of legal remedy than that provided by the patent laws, which, as appears, extends such protection in no case whatever, beyond the period of twenty-one years.

Here, then, there is no legal recognition of any such absolute property in any invention, as will debar the public from borrowing or adopting it, or will prohibit any subsequent discoverer of the same principle, agent or method of operating, from freely using it after the period covered by the patent shall have expired.

To *me* it appears, that the law, looking to the justice due to the public *as* carefully as to the rights of particular individuals, leaves discoverers to their own unassisted resources for making for themselves an absolute and exclusive property of their inventions, and interposes only for the benefit of the public its assurance of a *monopoly* for such a period of time as it is supposed may operate as an inducement to reveal the secret at once, for general use.

The question stands thus: *One* man in the year 1850, discovers a new and useful machine or combination of matter, and of course the discovery, with all its benefits, is *his*, to the extent that in the nature

of things he can employ it; but it is manifestly *not* his to the extent that he shall be justly entitled *forever* thereafter to deprive any subsequent discoverer of the same thing from enjoying the benefit of his equal ingenuity and labor. He had a legal right to keep it *hid*, and so manage it for his own benefit, but he has no right to take from another man who, in the year 1875, may or might bring the same thing to light; and the law, on a principle of sound policy, and for the sole purpose of "promoting the progress of science and useful arts," as the Constitution states it, offers to every ingenious or fortunate experimenter, the bribe or compensation of a monopoly in his discovery, on condition that he "at once gives up his secret, and makes public his discovery or invention, and the manner of making and using the same, so that at the expiration of his privilege it may become public property." Let those who insist upon the right of discoverers to a clear and exclusive property in their inventions, and appeal to municipal law for their authority, look at the question in this light, and they will see that so far as the *law* allows such claim, it does it only to induce its more early and advantageous surrender to the use of the public. I believe no government has ever given a perpetual monopoly in any material or physical invention to its discoverer. If a man will hold his right in it against all the world, he must do so by concealment, leaving it as though it were yet undiscovered, so far as the rest of the world is concerned, and at the same time leaving it open to the talents or good fortune of those who may come after him. For it must not be forgotten that a patent, besides securing the right of an inventor, at the same time takes away the equal right of every other man to make a similar discovery for his own benefit, during the time covered by the privilege. And, considering the progress that mind is everywhere making, it is even probable that fourteen years is quite as much as any man is likely to anticipate the invention of other men engaged in similar pursuits. There is, indeed, nothing more common than for the very greatest discoveries to be made almost simultaneously by a number of persons in different parts of the world, or in circumstances which preclude the idea that either is indebted for the hint to another. Patent rights are, therefore, in my apprehension, a mere matter of public policy, and not fundamentally based on any ground of justice to the individual or party protected and benefitted thereby. Closely examined, no man has any such right in natural justice and reason to the monopoly which a patent confers upon him. If nature has made him ingenious, or luck has befriended him, he has the natural right to avail himself of his excellent abilities, or, of his good fortune; but he

cannot ask the world to surrender *its* rights and chances, because he has been a day or two before it in a happy idea. The public finds its interest in bribing, or compensating him for communicating the first intelligence of the new blessing, and if he deserves anything more than a fourteen years' exclusive profit of it, and the prohibition of everybody else for that period, he must be paid out of the common fund of fame and gratitude, which is the exchequer for rewarding public benefactors. The principle and policy of patents, it seems to me, are to be thus regarded, so far as they bear upon the question that concerns us in this inquiry. It is to be kept in mind, moreover, that patent right properly applies only to those combined results of *knowledge* and *skill* which produce physical, material, or mechanical results. These are broadly distinguished from that other class of creations or discoveries which are covered by copy-right. The distinction, as regards the question before us, is of the most material importance, and challenges our attention all the more that it is commonly confused or disregarded in this discussion. I think that the friends of Dental patents have a marked affection for the shelter which they fancy is afforded them by the higher and more *honorable* warranty of copy-right than that which can be drawn from the more mechanical and less professional example of patent rights. Now, it strikes me that they stand not at all upon the same ground, nor issue in any thing like similar results.

Copy-right is the property which an author has in his work, secured to him by law for a limited time. Let us note a few of the incidents of this species of monopoly, that the contrast which we allege may the more clearly appear. The privilege of an author, accorded to him as compensation or inducement to disclose his secret, and surrender, after a limited time, the profits of publishing the product of his mental labor to the public, is the exclusive right to print, publish, and sell his work for twenty-eight years; and the further privilege to himself, his wife, child or children, of extending the term fourteen years longer, during which period of forty-two years no one else shall, without his consent, republish, or otherwise profit by its publication. (*Bouvier*, 1st vol., 237. 1st and 2d sections of *Act of Congress*, 3d Feb., 1851.) Here is a very marked difference in the term accorded to the privilege.

In England, in the days of Lord Mansfield, it was held by a majority of the judges of the highest court in the realm that, by the common law, or in other words, by common right and justice, the author's property in his work was perpetual. Their decision was, upon appeal

to the House of Lords, reversed, and the limited term of the English statute only allowed. The weight, however, of authority entitled to regard in settling the merits of the question, is generally held to be on the side of perpetuity in the property of authorship. For which there are many excellent reasons.

Of these reasons, it is sufficient now to indicate the following : Copy-right does not forbid the translation into another language, it does not forbid fair *bona fide* abridgement ; it does not, in the nature of things it cannot, forbid any other use or employment of the ideas and language of the book, except the tradesman's profit in their republication, in form and substance as they came from the pen of their author. Thoughts and words are, of necessity free, once born into being they may be repeated all round the world, serving all the uses of which they are capable ; and they neither carry the ear-marks of their first proprietor, nor ever after pay him any other tribute than that of fame and immortality, if they are capable of so much. Copy-right of the original book protects them and their author from nothing but the book-sellers piracy, because their real essence is of that spiritual nature that, like the wind which bloweth where it listeth, thou canst not tell whence it cometh nor whither it goeth ; so is every sentiment and every idea born of a book. The ablest works of elementary science that are now copy-righted are but new arrangements of principles and doctrines that have been a hundred times in like manner secured to as many authors and compilers of them ; and they still lie open to a hundred or a thousand new forms of combination or presentment, with no better chance of being withheld from general use than they had at first. Nothing in authorship is, or can be monopolized, but substantially the identical form of ideas and language which the writer first gave them. No sooner is a new view of a scientific truth uttered, than ten thousand minds are busy moulding it into as many forms, each capable of all the special use there is in it. The author holds nothing against the natural rights of the world around him, or of that which follows him in date, but that peculiarity which naturally distinguishes him from everybody else—that is his right by intrinsic and inevitable necessity, and copy-right only prevents the incapable and the sordid from infringing such peculiarity in his mental product, or filching the honors of his superior talents. His equals and his superiors are not thereby abridged of any claim they otherwise might acquire in the gifts the gods have first given to him, and which they are, in their several measures, as worthy to receive. The works of Newton, Bacon, Arnott, Bell, Bichat, Blackstone, Cuvier, Agassiz,

are free material, from title-page to index, to every capable man that can employ them.

Science admits of no monopoly. No law, of penalty either, *can* or *attempts* to restrain the property and use of its truths to the service of first discoverers.

Once ushered into being, they are yours, and mine, and my be servants unto thousands. Whatever is essential in them is subject to remoulding, recombination, reapplication in all the myriad forms that diversity of mind can give, and diversity of available use invites. It is not so with levers, springs, wheels, and pullies, and the compositions of chemical elements which *patent* rights protect.

The same effects can be produced from *them* only by similar arrangement, and *this* the monopoly forbids. As I said before, copy-right stretches to forty-two years in this country. In England the author has absolutely twenty-eight years, and, if he be living at the end of that period, then, for the residue of his life. In France it extends to twenty years after his death. In most of the German States it is perpetual. In Russia the rights of an author or translator continue during his life, and his heirs enjoy the privilege twenty-five years afterwards. With respect to patent rights I am not so generally informed; but in England, as in this country, they are limited to fourteen years only, as before stated, with the possible extension here of seven years more in certain cases. The marked difference between the very short period allowed to patent right, and the life estate in effect (forty-two years is a life estate, in fact not one man in a hundred lives so long after publishing a book,) in all countries, and the inheritance to heirs beyond that in others accorded to copy-right, indicates a felt distinction in the subjects to which they respectively apply, and which seems well grounded, moreover, in those reasons of the thing at which we have already hastily glanced, and imperfectly presented.

The points of contrast which are important, in my apprehension, may be thus briefly stated. A patented machine cannot be translated into other forms, as of oak wood into walnut, iron into copper, or buck-skin into goat-skin, where the *modus operandi* and the effect are precisely equivalent. This would be an evasion and an infringement; but the most literal translation of a German work into English, or of any language into any other, is allowed by copy-right. A machine cannot be abridged in bulk, retaining all the principles, copying the mode of combination, and preserving the identical operation thereof. A book may be so reduced, and is not punished or prohibited. A machine cannot, by the addition or subtraction of a lever,

pully, wheel, or screw be turned upside down or “’tother end foremost,” and thus made to produce the same effect precisely, by such merely formal alteration, and escape the penalty of the patent laws ; but the entierty of a book may be so employed ; every idea in it can be used by an altered utterance, and the identical effects be all derived, without offence against the statute. Of a machine, the essential characteristic is protected against any mere formal modification. Of a book, the essence and operative power is the very thing that is not protected. The form, which in all scientific treatises is as nothing in the way of its public and unrestricted use, is the only thing secured by copy-right. A bookseller may not re-print a poem, but an author may write it down to prose, and sell it as his own ; or an orator may rehearse it with all its power to please, convince, and move his audience, and he is blameless before the law. A book, with the warning of the government on its fly-leaf, is no terror to the free intelligence of the reader. MIND is not forbidden to appropriate and employ, at will, for either pleasure or profit, anything it contains, in any manner in which the material in it may be beneficially used. The substance and spirit of science and literature are thus in happy keeping with their divine nature, born free, and cannot be brought into bondage to any man. The particular form which their first revealer gives them only is his exclusive right, and that form being all that he can claim, every plodding book-wright who follows him may have as great a pecuniary benefit of his toil, by a new and useful reproduction of his thoughts, as the parent brain itself can claim or hold. The clear conclusion therefore is, that copy-right is not a conflict of interests between an author and the profession for which he labors, or the public which he serves, but between him and the mechanics who print and bind the volumes he produces, and the trader who vends them in the market.

But the patentee of a machine, or novel composition of matter, stands to the world a monopolist of all the value that there is in his particular invention. He sells the right to use it, and the public buys it upon the commonest principles of trade ; the community surrender their own equal liberty of discovery to his antecedent advantage in point of time, and compromise the conflicting rights by a concession which they deem a fair, or at least, an effectual one. Such is the difference between the two, that, in all fairness of reasoning, and in justice of dealing, the common sense of mankind restricts the privilege, for privilege it is, of the one to a little more than a dozen years in his invention, and grants to the other a life estate, or a perpetuity in the

property of his literary labors. If this grand distinction were not somehow felt, we would, perhaps, see less of the ambition of Dental patentees, and of their advocates, to exalt the mechanical monopoly which they approve, to the level of the more unequivocal and unquestionable right of authorship in the creations of their genius and the products of their toil. Having disposed of these preliminary considerations, rather I confess in bulk and by suggestion, than in such power of demonstration as space, and the lack of larger ability deny me, I will now present such other thoughts as the occasion calls for. Briefly, and without special regard to the formalities of such disquisition, I take the ground that Dental patents, applying as they do to the mechanical department of our art almost exclusively, lie wholly within the sphere, and are governed by the laws of *patent right*, and have no pretension to rank with the principles and subjects of our science, properly distinguished.

As such they are not forbidden, either by civil law or individual duty to the mere inventor. The discoverer or inventor, as an individual man in the community, owing no fealty to the profession, its corporate interests or honor, and having never embraced it in the arms of his affections, may hold it at the arms-length of his individual interest, and deal with *us* as with the rest of mankind, "enemies in war, in peace friends;" for, he is just in the attitude towards us to quote the Declaration of Independence. As a man bound by no reciprocities of respect and duty, he may hold his wares at *such* price, and I may purchase them on the same ground, that I would any other advantageous contrivance; quite indifferent whether the thing is to serve me in my coal cellar, my kitchen, stable, or operating room. But no idea, principle, or feeling of the profession and its relations may justly mingle in the business. The patentee comes not to me neither as teacher nor scholar, but he begins the transaction by ignoring the reciprocities of free and equal brotherhood in our art. He does not unroll his diploma, or even hand me a letter of introduction from a brother dentist, but he holds out his parchment with the arms of the United States engraved, and points to the 14th section of the Act of Congress of the year 1836, which provides that, wherever in any action of damages for making, using, or selling the thing whereof the exclusive right is secured by (his) patent, a verdict shall be rendered for the plaintiff in such action; it shall be in the power of the court to render judgment for any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case, with costs,

(*Bouvier's Law Dic.*, 2d vol., p. 237.) Nay, he may even go further, and entrenched behind the 12th section of the same Act, he may notify me that he has caught a hint which only promises a discovery in some implement or agent of our common profession, and having already filed in the confidential archives of the Patent Office a description of the design and characteristic distinctions thereof, but wanting time to mature and perfect his invention, and warn me that if I, by any accident, shall happen to blunder on the same discovery, I may not use it for my own or my patient's benefit, without paying him the legal compensation for his earlier guess, that now, by his forestalling prudence has become his exclusive property. Can I receive such an "avant courier" of the sheriff as a brother in the profession? Does he *in* any respect, or *with* any respect either, put himself upon the ground of such brotherhood with me? Surely, if a Bishop rides his own horse in a race, he must answer for it in the judgment, not as a Bishop, but as a Jockey, and by parity of reasoning, the Dentist who takes the attitude of a trader in commodities with me, must be held in that position, and claim nothing out of it. He treats his discovery as a commodity, and me as his customer *only*, and not as his professional equal. His own act fixes our relations, and I cannot change them. It is far otherwise when Professor Harris, Arthur, or Austen does me the honor of a visit.

They are each the copy-right authors of certain valuable treatises in our art, and when I say to either of them, "Sir, I have availed myself of one of the suggestions of principle, or one of the modes of practice recommended in your work, and find it valuable in my practice," he answers—"I am glad your experiments endorse my views, and will be happy to add your testimony in my next edition, of which I will do myself the pleasure to send you an early copy."

I may respond to this. "I had a case since your publication peculiarly circumstanced, which seemed to require a modification of the treatment which you recommend, and so far as I and my friends Dr. W. and Dr. F. have observed, it seems to work well." "Indeed," replies my copy-right friend and visiter—"will you be good enough to give me the result of your observations, when they are well ascertained, that I may add them in my next issue, or furnish them for the *Journal*, from which I can extract them?" This, it strikes me is more like the proper commerce of professional equality, which, in its free and liberal spirit, sinks the difference of talent and experience existing among brethren, as politeness levels the intercourse among gentlemen to the common ground of honorable intercourse. The President of

the United States does not ask me to pay him the difference between his rank and mine in the exchanges of social life, and Lord Bacon, Professor Owen, and all the authorities in my own profession, treat me with the same measure of liberality and courtesy.

Thus, patent-right and copy-right are broadly different in all their bearings upon the interests of the profession, and upon the relations of the practitioners of Dentistry.

Looking to the parent stock of the healing art, of which ours is certainly a legitimate branch, for precedents, and the reasons on which they are grounded, Dental patents can get no place or allowance among us. The faculties of Medicine and Surgery give but one united and conclusive testimony upon the point. It is expressed once for all in the Code of Ethics of the American Medical Association, adopted May, 1847.

The 4th section of the 2d chapter of that Code reads thus: "It is derogatory to the dignity of the profession for a physician to *hold* a patent for any surgical instrument or medicine, or to dispense a *secret nostrum*, whether it be the composition, or exclusive property of himself or of others. For, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and *professional liberality*; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." Such authority is, *prima facie*, entitled to respect. The uniformity and universality of the sentiment suggests the conclusiveness of the reasons which support it. And it is only because the argument in *extenso*, is entirely incompatible with the special drift of this address that I now waive it. I might even say, with all due respect for the opposite opinion, that it is too obvious to require a formal and detailed presentment.

Nor does this doctrine of the parent profession want the support of the advance sentiment of our own branch, either in the judgment and practice of individuals entitled to high consideration, or the official declaration of associations that have maturely considered it, and its bearing upon our common welfare. The Mississippi Valley Association, and the Pennsylvania State Society of Dentists, have unequivocally condemned the practice of patenting discoveries and improvements by Dentists in their fellowship, as derogatory to the honor, and inimical to the progress of our art. My reasons for abstaining from naming the Dental Colleges, and the distinguished practitioners whose

opinions I might quote with effect, or those which have not yet given their concurrent suffrages, will be perceived and appreciated.

I esteem it prudent now to overlook the dissentients, as I doubt not it will soon be my duty to forget their tardiness in this high duty to the profession. We are contending with the errors and abuses which are incident to the crude beginnings of all great enterprises. We are, indeed, rapidly growing into the form and order, the tone and spirit, of maturity, but we are bound to deal as tenderly, as faithfully, with whatever among us still requires reform. It is but a little while since we were overrun with secrets, nostrums, humbugs, and all the common tricks and trumpery of quackery. With us it is the newest, not the oldest idea and usage, that is rightfully authoritative. It is to what we surely *shall* be, not to what we have been in days "*lang syne*," that we must look for guidance. And is it not certain, that, when our profession shall largely and unequivocally take its acknowledged rank with the sister branches of the healing art, its principles, policy, and practices, will in like manner, repudiate all that exclusiveness of knowledge, implements, medicines, and appliances which ignore and deny a professional community?

What, let me ask, is the meaning of a dental library—a dental journal—a dental college—a dental association, if every or any special discovery of any man in the fraternity may rightfully and regularly be withheld from the use of any other?

If I publish a book, or a treatise in our art, is it understood that I teach in it only what everybody else already knows? Is a periodical to be no more than a rehash of current and common knowledge?—or dare a professor in one of our schools say to his pupil, "I use for my profit all that others freely communicate, and keep back whatever I can hide away from your use?" Every man among us, who is good for anything, is a learner, and every such man should be a teacher.

What, then, is his duty? Is it to borrow, and not to lend, to receive, and not to give? If any one answers that he has labored, thought, or been in luck, and wants the profit of it, the answer is, write and copyright your discovery; take the benefit that professional laws allow you; take, besides, the honor of it; take the advantage in your own practice; take anything, *but* take out a patent and a writ from a Circuit Court of the United States against your liberal-minded brother in the profession, or, take yourself out of it.

To produce the names of the men who are our warranty for the doctrine which we urge, would be to rehearse the names of all the men who have passed into the history of our rise and progress as a pro-

fession—to recite the instances of their obedience to our principles, would be to re-publish all that is worth knowing in our science ; but let me merely cite a couple of examples now engaging attention—Dr. Hullihen's Risodontrypy, aiming at a highly important object, and justly claiming high consideration on the ground of the discoverer's reputation. It is of no consequence to our position whether it prove worthy of adoption or not.

The point of the history is, that distinguished dentist has not entered a *caveat* in the Patent Office at Washington, but submitted it to the judgment, and surrendered whatever there may be of use in it to the profession. My friend, Dr. Plantou, of Philadelphia, has, in like manner, made what promises, in my apprehension, to be an important improvement in filling teeth,—one as capable of a patent as any other discovery in our art, but he withholds the announcement only till the investigations of his friends, in whose judgment he confides, shall confirm his own opinion, and then it is to be freely given to the common stock of Dental science. I mention these instances because they are now undergoing a keen and fair examination in the manner which I conceive illustrates the principles and policy which should govern us all in our professional conduct. But it is not in the scope of my present purpose to exhaust the argument. I wished specially to offer such thoughts as I have on the topics which have principally occupied me. The positions which I take are to the following effect:—

The natural right that any man has in any discovery he may make in art or science, is not a *patent* right. The former, at the utmost, only entitles him to conceal and use as best he may, his invention for his own benefit. If he wants a better hold and profit of it than this, the patent law offers him a compromise bid for it, which amounts to this:—"If you will at once give up your secret, the community will give up their right to discover it for themselves for a given time, and surrender all other claim, moral, social, and natural, which they may have to such beneficial truths as God has so stamped with freedom, that they cannot be held by any man for his private profit a moment after they are ushered into being." This, says the law, shall be the bargain for a term of fourteen years. Take it, or refuse it, and trust to your natural ingenuity to conceal, as well as to discover, the thing.

There, I conceive, stands the matter of patent rights, to whatever subject applied. For my life I can see no other merit in the claims it is used to protect. In fact, we know that few really great discoverers have ever been able to make anything for themselves out of their

special privileges. Hucksters and pedlars, as usual, fatten on the spoils which genius has won for the world. The *natural* right, I again assert, is the right to keep the secret, not to sell it to all the world, and compel them to *buy* or do without it.

Now, how does such a right stand in professional life? Suppose I am called in consultation with a physician, surgeon, or brother dentist, can I, without violating every implied pledge of such consultation, keep my secret, if I have a helpful one, from my associates, and from our patient's service? The answer is a plain one, and the inference is just as plain, that the natural right which would induce, excuse or warrant a violation of duty and honor in professional life, ceases to be a right within the sphere of that profession. That is all that I affirm against dental patents. They are unprofessional, and, for all the reasons which ought to govern us, should be put under our interdict. Again, I wish it to be understood that I am addressing my argument specially to that foundation in natural justice, which has been claimed for dental patents. If the occasion served, and I were treating the matter in a wider view, I should consider it and the advocacy to be encountered, in a different way, and it seems to me not without success. There results, also, this other consequence from the ground taken here, that if dental patents are unprofessional, I may, if I please, buy a right, if any offers, which duty to my patients requires me to employ, but I may *not* sell such privilege of use. When I purchase a patent or thing, the vender has put himself out of the profession, by refusing, or despising its obligations, and with my views of the matter, whenever I, by any act, word or hint, sign or other form of agreement to the thing, make myself the agent, instrument, or accessory to the act of vending the same, I put myself out. This is not the same thing, be it observed, as saying any thing inconsistent with the courtesy and respect I otherwise owe to any one of my brethren involved in the manner that I would myself condemn, but it is saying, and meant to say, that all dental associations, colleges, and practitioners who have the responsibilities of the profession upon them, and enjoy any of its benefits and honors, should unhesitatingly put dental patents under ban, and treat them as they properly do all other monopolies in the industrial and liberal arts, as things outside of the pale of the fraternity.

ELECTRO-PLATING.—A recent discovery has been made, it is stated, in Electro-Plating, by which gold and silver are deposited in a hard state, and with a bright surface as if burnished.

For the Dental News Letter.

INAUGURAL THESIS,

On the Treatment of the Exposed Dental Pulp, Preparatory to the Operation of Filling—for the Degree of Doctor of Medicine. Session of 1843-4, in the Jefferson Medical College.

BY J. D. WHITE, M. D., D. D. S.

[Continued from page 204.]

THE TREATMENT OF THE DENTAL PULP.—The treatment of the exposed pulp has given rise to great difference of sentiment among well educated dentists, but mainly about the *means* which should be employed for that purpose, agreeing pretty generally, that it is bad practice to destroy it entirely, or even a portion of it; but as well might we expect to procure a healthy function of the *rete mucosum*, when denuded of the *epidermis*, by substituting one of our own invention, as to procure a healthy function of the pulp when deprived of its natural protection—the bone. The various modes of treatment which have for their object the preservation of the pulp, must be of that order. When the pulp becomes exposed by decay or any other cause, the delicate vessels which ramify upon its surface are soon ruptured, as well as those which passed into the bone which has been destroyed; they pour out blood and serum, which must have exit through an external opening, or inflammation supervenes, and in a very short time establishes a suppurating surface. Any attempt to remove this pathological condition by medical or mechanical agents, must, of necessity, prove ineffectual. Notwithstanding this is the language of reason and experience, it is the object sought to be obtained by most practitioners in dental surgery. *So long as the artery conveys blood to the pulp so long will there exist the necessity for an external opening and suppurating surface*, unless the inflammation is so violent as to produce a slough of the whole pulp.

ASTRINGENTS AND CAPPING.—This is a mode of treatment much extolled by some dentists. Dr. Fitch, in a work which I have before me, says: “I think the best practice will be, and is, to unite both, as I am in the habit of doing, which is, use the astringents for some time, and then cover the nerve with a cap of lead or gold plate, and complete the filling of the cavity with gold. If this practice be adopted by the dentist he will often save the tooth.” Yet he frankly admits “in many cases it entirely fails.” Now, if the cap could not save the tooth before the astringents were applied to the pulp, how can it do so afterwards? The therapist teaches that the effect of an agent that does not destroy the vitality of a part is of very short duration.

Astringents do not in these cases destroy the vitality of the pulp, or the cap would not be used to protect it from pressure. Then, of course, it may return in a very short time to the very same condition in which it was found before the astringents were used, and give rise to all those evils which would have followed the application of the cap in the first instance. Professor Harris, of Baltimore, in speaking of the above method of treatment, says: "It is not recommended as infallible; and while I declare it has been more successful than any other that I have tried, candor compels me to add, that it has failed in more instances than it has succeeded. Indeed, I regard the propriety of plugging a bicuspid or molar after the nerve has been exposed, as so extremely doubtful, that I think I hazard nothing in asserting that however correct the preparatory treatment may have been, it will not be successful in more than about one case out of four." This is the experience with which the writer has met in adopting the above treatment, *or any other method which has for its object the preservation of the vitality of the pulp*. As great a proportion as this may be saved without any preparatory treatment whatever, if the pulp be not actually pressed upon by the stopping.

CAUTERIZATION.—This has been highly recommended as a means of destroying the pulp by some.* The author last cited observes, in a work which I have before me, "We have pursued this plan for fifteen years with uniform success." I believe the reason why Mr. Maury met with so much success is, that in the use of the cautery in any form, the nerve is destroyed and mostly removed as far as the instrument is passed into the cavity, and the further the better; for, if only the minute extremities of the artery, vein and nerve be left, the artery will contract with more energy than numerous small branches; hence, when the membrane only is exposed, blood and lymph will ooze out for days, defying astringents; but if the nerve be removed far down in the root, the bleeding will cease in a few minutes, or hours at farthest, and it matters not whether this be done by thrusting into the roots a cold or a hot instrument; the pulp is destroyed in both instances, and this is the principal indication to be met in the treatment of the pulp. We can, and justly too, compare the exposed pulp to a small and extremely vascular tumor, the mere puncture of which would establish an irrepressible hemorrhage; but cut away the whole mass, and one single act of *torsion* upon the main trunk would immediately arrest it. From my experience, the *actual* cautery is the best means of destroying the pulp where it can

* Koecher and Maury.

be properly applied, as in the roots of the front teeth, where it needs but one or two applications to remove the whole pulp, and I can affirm with Mr. Maury, that I always succeed in my treatment of a tooth where I can apply it properly ; but I never use it now, except in the front roots, preparatory to setting teeth on pivots, and the gum does not swell after the operation, as is common when this method of supplying teeth is adopted. Inflammation does not often follow the use of the actual cautery, if it is not too large, and applied too often ; but if it come in close contact with the parieties of the internal cavity, and be retained for an instant, it will exalt the heat of the root so much as to inflame the alveole-dental membranes, (and, of course, abscess *may* be the result ;) it therefore requires great care in its application. Some merely "*touch lightly*" the pulp, so as to produce an *eschar* ; in so doing, the whole pulp in many cases becomes inflamed, and causes intense pain ; but if in such cases the entire pulp be destroyed, the pain immediately ceases. Mr. Bell deprecates the use of the actual cautery as well as all corrosive acids. He says : "The first and speedy effect of their application is to produce extreme inflammation in the membrane, with such intense suffering as often to demand the immediate removal of the tooth." He abandons the use of any agents, therefore, which have a tendency to destroy the pulp, as improper, and recommends the following mode of treatment, by

STIMULANTS.—"Under favorable circumstances, the sensibility of the membrane may be removed or its absorption produced so as to render it capable of receiving the stopping without pain or any subsequent inconvenience. Judging from my own observation, the continual application of a moderate stimulus, such as *alcohol*, *spirits of camphor*, a solution of the nitrate of silver, &c., will be found a more safe, as well as efficacious mode of treatment than any attempt at destroying the membrane." He further adds : "It is not, perhaps, easily determined, nor is it of much importance, in what way these applications produce effect ; whether by occasioning the actual absorption of that part of the membrane to which they are applied, or by gradually wearing out, as it were, its sensibility ; it is sufficient that experience proves them to be efficacious." I think this is a subject on which it is of great importance to know upon what principle a remedy acts. If these applications only wear out the sensibility of the part in which they are in contact, they will often fail upon the same principle as the astringents do ; but if they cause the absorption of the whole pulp, they succeed upon the same principle as that of the cautery, properly applied. Exposure to the air and fluids of the mouth for a time

will often produce the same results, namely, "wearing out the sensibility," and absorption of the pulp, or sloughing, without any subsequent inconvenience for a long period. To prevent the evils which arise from the accumulation of fluids in the pulp-cavity, when the functions of the pulp have only been *suspended* for a time by astringents, &c., and the external cavity plugged, some have introduced the practice of penetrating the neck of the tooth with a small drill, where the margin of the gum overlaps the enamel, so that the fluids may have free exit. It is needless to say that this proves the uselessness of the first part of the treatment. Before I discovered that I could destroy the pulp without necessarily rendering the tooth a useless foreign body, and becoming itself a source of irrecoverable irritation, it was my practice to insert a small gold tube in some part of the stopping, believing it to be preferable to substituting one aperture for another. But this is never required if the pulp be properly treated.

THE CONCENTRATED ACIDS.—These substances have been highly extolled by some and deprecated by others. *Arsenious acid* is most commonly employed, and there exists great difference of opinion among dentists in regard to the manner in which it should be used; but I have as yet seen nothing satisfactory, as far as principle is concerned, as to the best mode of administering it. J. J. Greenwood, of New York, employs it thus: "Steep a lock of cotton in essence of peppermint, laudanum or alcohol; then dip a point of the lock in powdered arsenious acid, and apply it in close contact with the pulp." Dr. Ide, of Ohio, in a communication to the American Journal of Dental Science, gives the following formula, which he has used with great success:—

R.—Arsenious acid, gr. iij.

Acetate Morphia, gr. ij.

Misce.

applied to the pulp on a lock of cotton. Dr. Spooner, of New York, in a work entitled "Guide to Sound Teeth," speaks of the use of arsenious acid in the highest terms. Dr. S. Brown, of New York, in the American Journal of Dental Science, says: "The arsenic should be applied on the extremity of a lock of cotton steeped in kreasote instead of water. The effect of the kreasote is to allay the pain which the arsenic alone would produce when acting on the living nerve." This method of using arsenic is practised by many dentists with whom I am acquainted, and with great success and less pain to the patient than is occasioned by it when used alone; but I think the reason assigned by Dr. Brown why it gives less pain when thus combined, is

incorrect, and for the following reasons: 1st. The therapist teaches that arsenic destroys the vitality of living tissue by combining chemically with its constituents. 2dly. The chemist teaches that arsenic is largely dissolved in the essential oils, and sparingly dissolved in water. 3dly. The therapist teaches that if arsenic is not applied to a part in sufficient quantity to destroy vitality, it will be absorbed; and, 4thly, that if it is in a condition to enter into combination rapidly, and in sufficient quantity to produce a speedy slough, it is not absorbed. Now, kreasote dissolves the arsenious acid more freely, perhaps, than any other essential oil; it is therefore in a favorable condition to unite speedily and in large quantity with the pulp, and in proportion to the rapidity with which it unites and destroys vitality, will the pain be diminished. Taking this view of the subject, arsenious acid is, perhaps, the best agent that can be employed for destroying the pulp of a tooth, if it be properly combined with other substances; because it can be applied in all cases with equal facility, to the back teeth as well as to the front. A recent writer of this city (*Dr. Goddard*), asserts that "The best plan is to clean out the cavity slightly, and apply to the pulp, as closely as possible, a very small quantity of pure *arsenious acid*. I say pure, because the common arsenic of the shops will not answer; and again, because many dentists are in the habit of using it with *sulphate* of morphia, to diminish pain, than which there cannot be a greater mistake, for the latter article both impedes the escharotic action of the arsenious acid and increases the pain. The arsenic thus applied not only destroys the vitality of the pulp, but it combines with the animal matter of the pulp, and forms a compound incapable of putrefaction! It causes some pain for three or four hours, when it ceases, and in a day or two the tooth may be plugged." I have tried the above method of using arsenious acid, and sometimes fail to destroy the pulp by one application, but *never* fail to cause great pain. It is well known to dentists that arsenious acid when applied alone will not always destroy the vitality of the nerve, but will give intense pain, and produce acute inflammation, requiring the immediate removal of the tooth; and for the very reason that the arsenic is taken up by the absorbents, and excites inflammation of the whole pulp, without entirely destroying its vitality, and very frequently it is absorbed to such an extent as to produce intense inflammation of the alveolo-dental membranes and alveolar processes. Arsenious acid, applied in *any* form, pure or impure, if it cannot combine in sufficient quantity to produce a speedy slough of the part to which it is applied, will be absorbed, and do great harm, (and this is the reason why its use has

been deprecated by the best dentists in this country;) and because it will not always destroy the nerve, but cause intense pain. That pure arsenious acid "combines with the animal matter of the pulp, and forms a compound incapable of putrefaction," will not make it less objectionable than if the pulp be destroyed by any other substance; it will act as a foreign body in the internal cavity, and be a cause of continuing inflammation through the foramen at the end of the root of the tooth, and involve the external membranes. It may combine with any indefinite portion of the pulp; and if we produce the death of a part, it is indispensable to remove such portion, or it will itself become a cause of inflammation. It is found by experience to be so in the treatment of local diseases of other parts of the body, and I think the same facts will apply in the treatment of the pulp of the teeth, no matter what may be the nature of the compound of the dead tissue.

Arsenious acid is undoubtedly the *destroying agent* in every form in which it can be used. A great many dentists use it combined with morphia, and with considerable success. I cannot understand why the preparations of morphia will obtund sensibility in some degree in the pulp of a tooth; they are employed with that view to other parts of the body,* and not without good effect. I know well that the sulphate of morphia alone will suspend pain in the pulp when it only arises from inflammation of that substance. I employ it constantly for that purpose, and sometimes combined with tannic acid, and always succeed in stopping the pain, even though it has been occasioned by the application of arsenious acid alone, if the external membranes are not much involved.

ARSENIOUS ACID, KREASOTE, AND MORPHIA.—This is, perhaps, the best form of using arsenic that has yet been devised. I have not seen it spoken of by any authors; there is no difference in the rapidity with which it unites with the pulp when the kreasote only is properly combined with it; but the morphia will exert its narcotic influence, and lessen the pain; an effect which we cannot ascribe to kreasote; the kreasote cannot be regarded in any other light than a mere vehicle.

R.—Arsenious acid, gr. xxx.

Morphiæ sulphas, gr. xx.

Kreasote, Q. S.

Misce.

Put the arsenious acid and kreasote in a glazed mortar, and grind them

* They are applicable to all cases where the object is to relieve pain or allay nervous irritation in any shape.—*U. S. Dispensatory*.

till the arsenic becomes impalpable, (adding kreasote to keep the mass of about the consistency of cream ;) then add the sulphate of morphia, and mix it well, still adding kreasote ; it will dissolve in the paste. Prepared in this way, the arsenic is in a better condition to unite speedily with the pulp than the mere dry powder of arsenic, on account of the kreasote holding a large quantity of it in solution, and it becomes more minutely divided. Great care must be taken to cleanse out the external cavity of the tooth, so as to place the paste in immediate contact with the pulp. A pledget of cotton about the size of a small pin's head, steeped in the paste is sufficient. If the pulp bleed when the cavity is cleansed, we must wait till the bleeding subsides before we apply the paste : the cavity may then be filled with cotton, and left in from ten to twenty hours. If it be in the tooth of a young patient, the bone will, perhaps, absorb a sufficient quantity of the arsenious acid to inflame the alveolo-dental membranes, and of course it should be removed in such cases in a shorter time than it could be left with safety in the case of an older patient, or a dense and opaque tooth. The reasons why I prefer this form of using arsenic, are : 1st. It destroys the pulp in a shorter time, and without pain, in more cases than any other form in which I have used it. 2dly. It less frequently causes inflammation of the external membranes than when applied alone ; and, 3dly, it produces a more extensive and perfect slough of the pulp, and of course I can take out the pulp far down in the roots ; a matter which should never be neglected, for reasons which I have given in another part of this paper, and on which depends, in most cases, the success and permanency of the operation of plugging. It would seem that dentists have pretty generally overlooked the necessity of removing the pulp, under a false idea that the tooth is thereby rendered inevitably a foreign body, and consequently becomes itself a cause of inflammation. I consider the practice described at page 15 of this paper, of removing the pulp, as preferable to the use of acids, if it were not for the intense pain it excites, and would apply to the molar teeth. I do not think it proper to plug a tooth immediately after the pulp is removed, on account of the bleeding which follows it, unless the actual cautery is used ; though sometimes the bleeding will be stopped when the nerve is torn out by a simple wire, as it acts on the small extremity of the artery as the operation of *machure* in common wounds ; but if the artery bleed after the tooth is plugged, the clot will act as a foreign body on the extremities of the vessels, and cause inflammation, which will pass through the foramen at the end of the root, and attack the external membranes. I therefore leave the

tooth, after removing the pulp, from three to six days, taking care to instruct the patient to wear a pledget of cotton in the cavity, and avoid masticating with it. When I examine the tooth, if it be in a proper condition, I plug it.

It may not be uninteresting to give a list of cases which I kept during April and May of 1842. In one hundred successive cases, the pulps were destroyed in eighty-four without pain; the remaining number, sixteen, gave pain, the average duration of which was one hour. The pain was most severe, and of greatest duration in patients of a strong nervo-sanguine temperament; but even in those cases, if the pulp had been subject to frequent attacks of inflammation, it rarely gave pain when the paste was applied. Again, patients of a scrofulous diathesis rarely suffered pain, whether the pulp had been previously subject to inflammation or not. I have extracted six of the above one hundred cases since the spring of 1842, on account of the development of alveolar abscess. The paste should not be allowed to spread over the walls of the external cavity, especially when applied in the teeth of young patients. It should never be applied in teeth when there is, on account of the age of the patient, reason to believe that the roots are not fully developed. If the pulp be destroyed, the further formation of the tooth will be arrested. Intense inflammation will be produced in the external membranes and jaw by destroying the pulp outside of the incompletely formed roots.* I was solicited by a lady, about three years ago, to destroy the pulp of the first inferior molar for her daughter, who was between seven and eight years of age. I refused, for reasons given above, but not having confidence in my opinion, she sought advice elsewhere, and the dentist to whom she applied destroyed the pulp, as he said, and plugged the tooth; after which intense inflammation set in, the part was poulticed externally† to produce suppuration, and, as it was very extensively inflamed and swollen, it pointed outside opposite the tooth near the base of the jaw—the parent became alarmed, and applied to me again. I removed the tooth, as a matter of course, and found the roots of it incomplete, and the foramina large enough to admit a crow quill. There should, therefore, never be any attempt to save such teeth by plugging.

NOTE.—This thesis formed the basis of several articles already published, but it was never intended to see the light; still there is not a principle or mode of practice advanced in it, that subse-

* The notice of the profession has not been called to this subject to my knowledge.

† When poultices are applied, they should invariably be applied to the gum opposite the tooth.

quent reflection or experience has given any reason to suggest a change. The mutations through which the treatment of the dental pulp has passed, during the last twenty or thirty years, by many observers, and the apparent unsettled condition of the subject now, would not give any single one a very large share of credit for modifications or improvements up to the present time. Dr. J. R. Spooner, of Montreal, was the first, doubtless, to use arsenious acid as a substance to destroy the vitality of the dental pulp, but it has been rendered much more efficacious, by its proper combination with other substances suggested by other experimenters. The formula which has been given in the foregoing paper was suggested by the reflection, that the best solvent, the most powerful narcotic, and the most deadly poison properly combined, would be the most appropriate substance to best effect the destruction of the vitality of so sensitive an organ as the dental pulp. It is true that great care is necessary in its use, or it may prove troublesome or fatal to the health of the tooth. Dr. Robert Arthur, of Washington, in a series of articles on the treatment of deep-seated caries, in the "American Journal of Dental Science," remarks that his first attempts with it were unsatisfactory, and he threw it aside for some time, but taking it up a second time he was entirely successful, which he attributed to more care in its use and more knowledge of the subject, than characterized his first attempts. From the bungling manner in which it is applied, as we have frequent opportunities to observe, by many who are either careless or entirely unacquainted with the properties of the substance, it is not surprising that their efforts should prove unsuccessful. From the extreme liability of the pulp to disease, and to give rise to prolonged suffering, even though it were subjected to the various modes of palliative treatment, first compelled us, in the early part of our professional career, to adopt the practice of extirpating the pulp.

For the Dental News Letter.

WARPING OF PLATES IN SOLDERING.

BY W. E. IDE, M. D., COLUMBUS, OHIO.

Much has been written during the past few years on the causes and remedies of this great annoyance to dentists. I do not propose to pass in review the opinions and suggestions of others on this subject, but merely to express, in as brief a manner as possible, my own. It is the universal practice of all dentists, so far as I am informed, to imbed their pieces to be soldered, in gypsum or plaster of Paris. Many use this material in its uncombined state, while others mix with

it more or less sand. In its simple or uncombined state it is one of the substances that, under the influence of caloric, *contract* instead of *expand*. I need not stop here to inquire into the cause of this peculiarity, but it is a well known fact that holds true with all the earths or minerals which, in a state of pulverization or crystalization, contain water. This is particularly the case with alluminous earths, and with sulphate of lime in its powdered state. The usual practice is, as all dentists know, to imbed the metallic plate and teeth to be soldered, in plaster of Paris which has been perfectly saturated with water, and to raise the whole to a heat that is sufficient to flow the solder. As the heating process proceeds, the investment of plaster *contracts*, while the metallic plate *expands*. If the outside of the plaster is heated more rapidly than the inner side it will be certain to break into numerous cracks. If it is heated slowly, the whole mass must crack through, or warp the plate upon itself. Either the expansive force of the heated metal must overcome the contraction of the plaster investment, or the contractive force of the plaster must overcome the expansion of the metal. To diminish the contraction of the plaster, clean washed sand is very properly mixed with it, and to some extent is successful, but cannot be entirely so. Though the contraction is diminished by its use, it is not overcome. Now, to be successful, if our theory is correct, we must surround the metallic plate with a substance that shall *expand with* the plate instead of *contracting upon* it. After considerable investigation and experiment, I think I have fallen upon an arrangement by which this end is attained. We find from the experiments of Lavoisier and Laplace* that a rod of silver, when heated from 32° to 212° Fahrenheit, is elongated 1-524 of its length, copper 1-581 of its length, gold 1-602 of its length, and iron 1-812 of its length. It will be seen, then, that iron expands far less than gold, while copper expands more. It occurred to me that this fact might be practically applied to the subject under consideration, and the results of my experiments have justified this conclusion. My process is as follows: For whole sets of teeth I procure copper plate as thick as is consistent with a reasonable degree of pliability, and cut into strips about an inch and a half wide, and long enough to make a circle somewhat larger than the circumference of a set of teeth. This strip is bent into a ring, and the ends riveted together. I next pierce this copper ring with two rows of holes, one row near the upper border, and the other a half inch below the first, and the holes about half an inch apart. I then take well annealed copper wire, as large as can be

* Biot, *Traité de Physique*, vol. 1, p. 158.

readily wrought with the fingers and pliers, and weave this through the holes in the ring on the inner side, leaving the wire in short but even loops. This leaves a net-work of strong wire on the inside of the ring. The size of the wire which I use is about No. 14. I then cut into the lower edge of the ring to near the lower row of holes, at very short intervals, quite around its circumference. The sections of plate thus cut are turned in towards the centre of the ring. When the teeth are arranged on the plate in wax, I bend the ring to near the shape of the piece containing the teeth, and put the latter in the former. The net work of wire should nearly or quite touch every tooth—the space between the teeth and copper plate not being more than half an inch. I then prepare a thin mixture of two-thirds plaster and one-third clean sand, and pour in to fill the space between the teeth and copper ring. After the mixture hardens I invert the piece, and pour upon the palatine surface of the plate a small quantity of plaster and sand, in which there are at least five parts of sand to one of plaster. This last is merely to keep up the evenness of the heat in the process of soldering. It will be noticed that the quantity of plaster and sand in this process is unusually small. This I consider important for two reasons: In the first place, it diminishes the contractile force of the plaster. Secondly, it enables the operator to solder with a less amount of heat, and also to keep the temperature more even. This last fact renders the danger of cracking the teeth positively *less* than in the usual way. The usual practice is to use a large amount of plaster and sand with a view of preventing the teeth from cracking. This I am convinced is all a mistake. As little should be used as will keep them firmly in place. It will be noticed that the plaster and sand first put into the ring is perforated in all parts with the wire net work. It also does not occupy the whole circumference of the ring, but only that which is bounded by the teeth. Now, as the piece is gradually heated, the expansion of the copper ring and net-work being greater than that of the gold plate, and the plaster mixture being carried along with the ring, all contractile force upon the gold is effectually prevented. The last mixture of plaster and sand that is used on the palatine surface of the plate has such a preponderance of sand that there is no contractile tendency from that source. I always raise the piece to a red heat at first in a charcoal furnace, and in soldering I take good care to direct the blaze occasionally upon the outside of the ring, so that it may not contract while the plate is expanding. After the teeth are soldered on I restore the whole to the furnace, and cool gradually, taking care the circumfer-

ence is kept at a higher heat than the part which contains the plate. If the process here described is strictly adhered to, and the gold plate not too much alloyed, I think springing never need be feared. According to my experience, a plate never springs under any ordinary heat, when heated by itself for the purpose of annealing. This is to my mind a fact confirmatory of my theory, that the cause of the warping is always found in some force acting upon the circumference of the plate. The fact that when such force is prevented, the plate *does not warp*, is a demonstration to me satisfactory. Let those who doubt try it.

For the Dental News Letter.

MESSRS. JONES, WHITE & McCURDY—*Gentlemen*:—Permit me through your "Dental News," to draw the attention of the profession to a phenomenon which has just come under my observation. An elephant's tusk was wounded by an *iron* ball of an half ounce weight. The ball* was driven into and through the nerval cavity, and lodged in the opposite side, being driven into the ivory nearly its whole diameter, and wounding very badly the nerve, no doubt causing great pain; the splinters appear to have been driven into the nerval cavity, making only a slight indentation on the enamel—the wavy appearance of the ivory, and a tumor formed of bone or ivory in healing. On the opposite side of the cavity, where the ball lodged, there is an ivory tumor formed over it. The tumor or ivory on the side in which the ball entered, is the whole size of the lump healed after the ball passed through, and is the full thickness of the ivory.

According to present theory, a wound of this character could not heal; but here is an instance of a half inch iron ball passing through one inch and a half enamel and ivory, through the nerve and into the opposite side, no doubt splintering the tusk and seriously wounding the nerve. Yet nature has come to the aid of the case and made a beautiful and permanent cure. The ball shows only a black oxyd. That portion of ball which was exposed in the nerval cavity, and pressed on the wounded nerve, has now an ivory covering. The remarkable phenomenon is in the possession of S. G. Willing, of New Rochelle, West Chester County, New York.

The above fact removes from my mind all doubt upon the point of teeth, under certain circumstances, renewing both the ivory and

* We have struck out the references to the pencil drawings, believing that the verbal description would be sufficiently plain to comprehend the nature of the case and the author's opinions.

enamel. About 15 years ago, Dr. Robinson, S. D., of Norfolk, Virginia, removed the caries of one of my molars; he desired to fill it, but as the cavity was quite narrow, I directed him to make a long incision only, and I afterwards removed the dentes sapientia, in order to test my belief in the renovation of both ivory and cementum; I find, as I thought and believed, the tooth has perfectly recovered. If these facts are of any service to the profession, or be the cause of drawing their attention to them through your paper, you are at liberty to put them in any form you please, or if you choose, publish the letter as it is.

W. D. PORTER, U. S. N. and S. D.

New Rochelle, June, 1853.

REMARKS ON THE ABOVE.

If Mr. Porter will refer to "The Cyclopædia of Anatomy and Physiology," vol. iv., page 923, he will find an article on the tusks of the elephant, that it "is not uncommon to find processes of osteo-dentine or imperfect bone-like ivory, projecting in a stalactitic form into the interior of the pulp-cavity, apparently the consequence of partial inflammation or malformation of the vascular pulp. The musket-balls and other foreign bodies, which are occasionally found in ivory, are immediately surrounded by osteo-dentine in greater or less quantity. It has long ceased to be a matter of wonder how such bodies should be completely imbedded in the substance of the tusk, sometimes without any visible aperture; or how a leaden bullet may have become lodged in the solid centre of a very large tusk without having been flattened. Such a ball, aimed at the head of an elephant, may penetrate the thin bony socket and the thinner ivory parietes of the wide, conical pulp-cavity occupying the inserted base of the tusk; if the projectile force was there spent, the ball would gravitate to the opposite and lower side of the pulp-cavity." There is a drawing given here to illustrate this circumstance. "The presence of the foreign body exciting inflammation of the pulp, an irregular course of calcification ensues, which results in the disposition around the ball of a certain thickness of osteo-dentine." The pulp then resuming its healthy state and functions, coats the inner surface of the osteo-dentine inclosing the ball, together with the rest of the conical cavity into which that mass projects, with layers of normal ivory? The portion of the cement-forming capsule, surrounding the base of the tusk, and the part of the pulp, which were perforated by the ball in its passage, are soon replaced by the active reparative power of these highly vascular bodies. The hole formed by the ball in the base of the tusk is then more or less completely filled up by a thick coat of cement

from without, and of osteo-dentine from within. Traces of such cicatrix closing the entrance have been more than once noticed, and Blumenbaek deduced therefrom a property in the elephant's tusk to pour out bony matter in order to heal such wounds. The reparation is, however, effected by the calcification of the reproduced parts of the capsule and pulp.

“By the continued growth of the tusk of a young elephant, the ball which entered the base of the tusk may be carried forwards, until that base has become the apex of the tusk, and be finally exposed and discharged by the continual abrasion to which the apex is subjected.

“The tusk is formed by successive calcification of layers of the pulp in contact with the inner surface of the pulp-cavity; and, being subject to no habitual attrition from an opposing tooth, but being worn only by the occasional uses to which it is applied, it arrives at an extraordinary length, following the curve originally impressed upon it by the form of the socket, and gradually widening from the projecting apex to that part which was formed when the matrix and the socket had reached their full size. The permanent tusks cut the gum when about an inch in length, a month or two usually after the milk-tusks are shed, when they become longer, and project beyond the lip. Their widely open base is fixed upon a conical pulp, which, with the capsule surrounding the base of the tusk and the socket, continues to increase in size and depth.”

The foregoing fully corroborates the phenomenon described by Mr. Porter, and he will perceive that it is by no means uncommon, and also that he is mistaken about the ball having penetrated the completely-formed enamel and ivory, as the cases quoted from the cyclo-pedia abundantly show. The phenomenon is, therefore, by no means explanatory, or evidence that a human tooth, when completely formed, can be wounded in a similar manner with impunity. It will be a difficult task to explain how completely-formed ivory—the vital force of which is of so low a grade—can restore so large an injury as would be made by an half-ounce ball, and much more in enamel; but, a ball lodged near the base of the tusk may, as has already been remarked, be imbedded by the “highly vascular cement-forming capsule surrounding the base of the tusk and that part of the pulp.” There is a great difference in the process by which tusk is formed. It would appear, and human dentine; a human tooth also attains to its full growth at a certain and very early period of life, and is left, by the smallness of the foramen, at the apex of the root, with a very scanty supply of nutrition, and is proportionally incapable of restoring dentine; whilst the

continued large opening at the base of a tusk furnishes, during a long time, or the whole life of the animal, as large an amount of nutrition as at its earlier period of formation.

The subject is an interesting one, and we would be glad to hear any thing that in any way has any bearing upon it; but the conclusions of the author looks like many others which we fear have been too hastily drawn for the permanent good of our art.

J. D. W.

[The following paper, which treats on several important topics to the profession, was designed by its author, Dr. T. W. Evans, to be read before the American Society of Dental Surgeons, at their last meeting, but as he did not arrive until after the meeting adjourned, it has been furnished us for publication.]

GENTLEMEN :—I have assumed the responsibility of addressing you upon the present occasion, not only for the purpose of contributing my mite to the general stock of information and experience, but also with a view of uniting myself more closely with an institution which has done so much for the advancement of Dental Science.

I here find myself surrounded by eminent men, all animated by an enthusiastic love of their profession, and attached to each other by that "unity of spirit" which is the "bond of peace;" whose names have been familiar to me almost from childhood, the memory of whom has stimulated me, both at home and abroad, to exertions which else may have been impossible. It has been my ambition to be worthy their esteem and friendship. I knew the reputation they enjoyed, not only in our own country, but in distant lands, and I resolved, when leaving home, to establish myself in what is considered to be the metropolis of medical and surgical science, to do what I could to sustain that reputation. The aim was as worthy as the task was arduous. I entered upon my mission with diffidence, but with courage, and was resolved that, so far as it was dependent upon diligent study and patient labor, it should be accomplished.

I now return to visit my native land, after six years of experience, which it would be false modesty in me to deny, have been crowned with unhoped for success. Whether that success has been deserved is not for me to decide. But this much I can certainly say, that it has not been gained by any artificial or factitious means, but has grown naturally and steadily, though rapidly, without any effort on my part except to merit it.

I have entered into no special competition with the members of our profession, more or less worthy and eminent, by whom I have been

surrounded, but have always sought and succeeded in sustaining the most friendly relations with them: though I confess to have had enough of the spirit of rivalry to be resolved that neither our noble science, nor our national reputation, should suffer at my hands.

Our reliance for success must always be upon those who have intelligence enough to appreciate, and liberality enough to reward our labors; and it is encouraging to know that, thanks to the rapid march of civilization, with which our science keeps steady pace, this class of society is ever on the increase.

Especially in this our own happy country, where the elements of not only polite learning, but of profound science are taught, even in our common schools, it may reasonably be hoped that every truly deserving profession will, ere long, be almost universally recognized.

For my own part, I have no complaint to make even in Paris, for although, as charlatanism seems to be quite as prevalent there, at the very head-quarters of science, as in less favored cities, it has offered no serious barrier to my success. Justice to my immediate "connexion" requires me to say that I have met with the most intelligent appreciation and the most liberal encouragement. The class of men who are caught by flaming advertisements, and who think a dentist has no name unless they have read it at the corners of the streets and seen it side by side with Brandreth's and Day & Martin's in the newspapers, kindly pass me by on the other side. They rush to my neighbor whose liveried bill-collector struts about the city with his master's name and profession inscribed upon his back in letters of appropriate brass; or, perhaps, they patronize the "celebrated dentist" who has wheeled himself into their affection with his chariot and span of white horses!

Doubtless, gentlemen, your experience and observation have been the same. The patrons of fancy dentists, like the patrons of natural bone-setters and universal panaceas, interfere little, if any, with scientific practice. To quarrel with them is absurd. "They are joined to their idols; let them alone." As for putting down imposition, you might as well talk of putting down human nature. Mankind are used to be taken in, and they *like it*. Hudibras, who

Knew *what's what*, and that's as high
As metaphysic wit can fly—

has taught us that

The pleasure is as great
In being cheated as to cheat.

Horace Mann wittily describes certain country school-houses in New

England, as being very useful to the world in showing how school-houses ought *not* to be built; and it strikes me there are certain dentists in the world—in the New World as well as the Old—who do good service in showing how dentistry ought not to be practiced. It is our privilege to show the contrary; to oppose sham by science; to dispel darkness with light. And, I repeat it, it is to those who seek after the light, and who follow step by step the onward march of science, to whom we must look—and to whom, believe me, no one of us will look in vain for countenance, encouragement and support.

There may be exceptions, but I doubt, as a rule, if a diligent, pains-taking, enlightened dentist can be found, on either side the Atlantic, who can reasonably complain of want of success. He may be encompassed with difficulties; peculiar circumstances may make his path more difficult than yours—than mine; but if he does not give way to these difficulties; if he has sufficient courage, and energy to oppose them, they will all be eventually removed, though to-day they lay piled across his track like mountains.

I will not dwell upon the obvious importance—the absolute necessity of labor; hard, unremitting, self-sacrificing labor in order to secure success; for on this subject we have all had line upon line, and precept upon precept; but I am sure you will pardon me if I insist that we must not only work diligently, but that we must work well.

In this country, where every man is in a hurry, where the road from the cradle to the grave is one vast race-course, and where labor is more respected and better rewarded than in any other country on the face of the globe, indolence is not so much to be guarded against as negligence.

Most men work hard enough, but few men work well enough. It is an old saying, and one that has peculiar force in our profession, that “whatever is worth doing is worth doing well.” Nothing can be slighted with impunity, from the making of a pivot to the delicate adjustment of a spring. Whether our workmanship is to be exposed to the eye, or concealed from sight, it ought to be done with an artistic nicety of finish. The filling of a tooth, for example, once thought by many to be so simple and trifling a matter, requires as much care as the setting of precious stones.

I mention this only as one instance, but it is one peculiarly significant to me, because it was in performing this operation that I first became aware of the importance of doing the operative, or rather the artificial part of our work, with the utmost fidelity. I had the good fortune to learn this lesson at the outset of my career, and the first

testimonial I received in my profession, though much less brilliant and costly than many I have since received, I value more than all the rest—more even than those coming from royal hands—because it was a public recognition from my own countrymen, from my own colleagues even, not of the many things which I had done indifferently, but of the one thing I was supposed to have done well, and that one thing, gentlemen, was the filling of teeth, and I cannot tell you with what pride I have since learned that, in consequence of this tribute to my acknowledged merit, some of my young contemporaries have been stimulated to apply the same degree of labor and care to other branches which I had devoted to this one branch of our art.

I have thought it not amiss, gentlemen, in these fast, labor-saving times, to dwell with some emphasis on the essential importance of executing the minutest details of our work with the greatest care and skill; and if I have ventured to illustrate my idea by a passing allusion to my own experience, it is not for the purpose of making an invidious comparison between myself and others; but, on the contrary, to show that if I had met with any peculiar success it has resulted not from any talent peculiar to myself, but from a capacity common to us all: viz., the *capacity of hard and faithful labor*.

In addition to the more obvious reasons for neglecting no detail of our workmanship, I may mention that by rigidly following this course (I speak again from my own experience,) the humblest of us may hope to arrive at some discovery or improvement for the advancement of the profession.

Dr. J. H. Foster, in his excellent opening address before this society, at its annual meeting in 1851, remarked: "Those who are attaining pre-eminent rank and reputation in our profession, are those who are performing new and untried operations."

Now, who of us does not know that these "new and untried operations" are often suggested by the faithful performance of those which are old and familiar.

The new idea comes to us, as it were, like a spark from an anvil in the heat of our work, and seems to endow us for the moment with a new sense. We work on with renewed zeal; the vague idea gradually assumes form and distinctness; until at last we are enabled to present our science with a new discovery, baptized with the sweat of our brow, if not christened by the world with our name.

I have been experimenting in my humble way, and "performing new and untried operations" from the beginning; knowing well that *where nothing is ATTEMPTED nothing is ATTAINED*.

When I was told years ago (to recur to my favorite experience,) that there were certain teeth so decayed, and their cavities so large, that to fill, and thus to save them, was next to impossible, I was all the more determined to persevere; and after applying myself diligently to the work for many long and weary months, my efforts were at last crowned with success, and rewarded with approval. Animated by this early and triumphant achievement, (for I confess to have been proud of it,) I was ambitious to excel in other departments of our art, and was even presumptuous enough to covet a wider and more difficult sphere for my labors.

Indeed, it had been the dream of my youth to go abroad; so, gathering up the few laurels I had earned—scarcely enough to make a chaplet—and calling into exercise all my courage, I crossed the ocean, and established myself boldly in the heart of the Old World.

There, as here, my determination was an entire devotion of myself to my calling. I own to having had at first some little misgivings—as any one might well have on finding himself for the first time amidst all the splendor and glory of the most brilliant capital in Europe—but yet something within me—it was probably a little of the old American leaven—made me feel that I should succeed. This, however, is not very striking, for somehow or other there appears to be something in the heart of every American which tells him pretty much the same thing.

But I am indulging too much in personal reminiscences. To go back a little: Believing with Dr. Foster in the importance of “new and untried operations,” and feeling that our own science, like every other, was yet to be enriched by many discoveries, I was anxious to have my share in their discovery and application.

It was at this period, gentlemen, that some of the most respectable members of our profession were seeking to find out some method whereby, in certain exceptional cases, teeth might be filled with less labor for the operator and less annoyance to the patient than the ordinary method of filling with gold.

I was not without hope, myself, that some such discovery would be made; not that I was at all desirous to shrink from any necessary amount of labor; but I *was* anxious that a large class of persons, whose nervous constitutions can poorly stand the fatigue of a prolonged operation, should, so far as was safe and practicable, be spared the torment of undergoing them. I saw at once, it is true, that most of our fillings must continue to be done in the old way; but I had hoped that certain peculiar cases might be treated with equal success in some less fatiguing

and more expeditious manner. And, at one moment, as some of you, gentlemen, are aware, I fancied that I myself had done something towards the proposed discovery ; and, over anxious, perhaps, to extend its benefits, I was too easily induced to proclaim it to the world, and associate it with my name. I did not do this without numerous and apparently successful experiments ; and the experience of other and eminent men seemed to show that I had conferred upon our science an important benefit. But the final result proved me to have been in error ; and I had no honorable recourse but to publish *this fact* as widely, as a short time previous I had published my supposed discovery. I promptly and frankly adopted this course, and have never *repented it*.

[In consequence of the length of this paper, we have concluded to divide it, and give the concluding, and more important part, in our next issue.—ED.]

For the Dental News Letter.

MECHANICAL DENTISTRY.

BY PROF. T. L. BUCKINGHAM, M.D., DENTIST.

Our profession is divided into two grand divisions, viz. : The operations on the natural teeth, and the manipulations required to replace these organs when they have been lost.

The first is termed operative dental surgery, and includes all the operations usually performed upon the natural teeth. Filling, plugging, scaling, extracting, the treatment of the diseases of the mouth, and the treatment of the irregularities of children's teeth, are all included in this branch.

To the mechanical division belong all the manipulations required to make artificial substitutes, and the apparatus necessary to correct the irregularities of natural teeth.

In the first division, nearly all of our eminent dentists are engaged, and they find sufficient to occupy all their time, without leaving them any to devote to the mechanical branch. It is, therefore, mostly performed by the younger members of the profession, or by others who have not been able to obtain a sufficient amount of operating to employ all their time. I allude now to the mechanical manipulation required to make artificial substitutes. I know that nearly every dentist has more or less artificial work done, but there are very few, except those alluded to above, who do it with their own hands.

There was a time when the workshop was indispensable to a dentist ; his occupation was then considered a mechanical art, and practiced as such. His views are now changed ; dentistry is no longer an art, but

a profession, requiring for its operations only, a scientific knowledge of the natural teeth and their surrounding parts. I have heard many freely admit their ignorance of the mechanical branch, and almost boast that they knew nothing about it; others, although they allow that skill may be required in its operation, contend that it is but a mechanical skill, and term those who practice it, dental jewellers, or workers in *chinaware* and *pottery*.

Many now advocate the entire separation of these two branches, under the impression that both might be benefitted thereby.

I propose now to examine the possibility of a separation. I admit that if they were entirely separated, it would be a decided benefit to the mechanical branch. But can they be separated? In large cities, where there is a large practice, the two branches may have offices connected, with a decided advantage to both. But where there is but a small practice, or in small towns, or in the country, I think it is impossible to separate them. No operator, in the present state of our knowledge, can be so successful as to save all the teeth that comes under his care.

There are cases presented, where so many of the teeth are diseased, and some of them so far gone, that it is necessary to sacrifice them to enable us to save the rest. These may be saved, with proper treatment and care, for a long time in a comparatively healthy condition, if nothing interferes with their natural functions. But if an artificial tooth is improperly placed by their side, or a clasp put around them, they are irretrievably lost.

Would a dentist who has a proper care for his patients, be willing to trust them in the hands of one who is admitted to be inferior to him in knowledge, skill, and judgment? But we are answered, he may take the impressions, and have the work done for him. How far he can do this, and give satisfaction to his patients, we will examine in a subsequent part of this article. Our object is now to examine the possibility of a separation of the two branches. We are directed to look, as an example, at medicine, which is being divided into physic, surgery, obstetrics, &c., and with a decided advantage to each division; but this can only be done in large cities. There is, perhaps, not one surgeon practicing in the United States to every hundred physicians, and there is not one in fifty of these that practice surgery exclusively.

Even in our large cities, nearly every physician practices more or less minor surgery, and in small towns, and in the country, they are absolutely compelled to perform nearly all the surgical operations. But allowing that the dentist can send his patients to one in whose

ability and skill he has perfect confidence, does he by these means get rid of all the mechanical manipulations? Is he not required to be a thorough mechanic to perform his every day operations in his office? (omitting the operation of filling teeth, which, in itself, requires a great deal of mechanical skill.) The dentist has, in correcting irregularities of children's teeth, to apply every principle of mechanics he can bring to bear; the lever, fulcrum, screw, wedge, inclined plane, all have to be applied, and with all these means, and all his skill, he has sometimes the greatest difficulty to overcome the obstacles that are presented. I know of no occupation that calls so much upon the mechanical ingenuity of the operator as dentistry. He has often to shape his instruments while his patient waits in the chair, or make or alter an apparatus before he can send him away. Nearly every case presents some new obstacle, which he has to overcome by his ingenuity, requiring him not only to invent, but to construct such means as will accomplish the object desired.

In small towns, and country places, the dentist must necessarily practice both branches. In repairing, if nothing else, he cannot get his patients to wait until he sends his work away to be done. What would they think of a dentist who would ask them to wait three or four days, while he sent the case away to have a tooth or a clasp soldered on, which should take only about half an hour to do it. We are compelled to do these repairs while the patient waits in the parlor, and we pity the dentist who is not able to do them himself. We have known dentists to leave their patients sitting in their chairs while they walked a mile to have a case repaired, when it would not take half as long to repair it, as it did to walk the distance.

We might relate cases to show the importance of a dentist being able to do his own work, but it is not necessary. We all can imagine the mortification that must be felt by a person who has been wearing a set of artificial teeth, when they are compelled to go into company without them. Ladies generally shut themselves up in their rooms, and deny all company; and gentlemen, when they are compelled to attend to their business, do it with the greatest reluctance. One remarked to us the other day that he would almost as leave be seen without his nose as without his teeth.

Admitting that there is a mechanical dentist near at hand, to whom the operator can send his patients to have artificial work done, is it policy for him to do so? Patients, generally, have not the ability to discriminate between the capacity of one who is capable of making a piece of mechanism to be used in the mouth, and one who does what

they consider a mechanical operation in it. We have known dentists whose practice has been built up or materially benefitted by operators recommending patients to them, to have artificial work done.

Let us examine, and see whether a dentist can do justice to his patients by merely taking the impressions, and having the work made for him. Our object, when we insert artificial teeth, should be to imitate the lost organs as nearly as possible, or at least to make such substitutes as will suit the case. If we will examine all the sets of natural teeth that come under our notice, we will find that no two are exactly alike, and yet many of them are very handsome, far beyond any artificial substitute we can expect to make; and what generally constitutes their beauty, is the harmony with which they agree with the other features of the face.

Teeth which would be handsome in one mouth would be decidedly ugly in another; a person with a full, round face, may have short, thick teeth, worn off half way to the gum, and yet they may give a better expression to the mouth than other shaped teeth would. Another tall, thin person, has long, narrow teeth, the upper row lapping the under very much. These are just the teeth to give a pleasing expression to his face. Between these two extremes we have every variety; some with jaws so narrow and contracted, that their four natural incisors scarcely occupy space enough for two; others, with mouths so large that we can hardly find teeth wide enough to fill the space.

Again, we have patients of all ages, requiring artificial teeth; some of sixteen, others of sixty years of age. Natural teeth show the effect of time and wear upon them as much as any of the other organs of the body. Even in animals, whose teeth are formed much more regularly and uniformly than the human teeth. They are a criterion by which we judge their age, and we can tell, after they have been extracted from the jaw, whether they belonged to the old or young animal.

I think I have shown—if it was necessary to show what every body knows—that all sets of natural teeth are not alike. I might now proceed to show that all sets of artificial teeth are made as much alike as the cases will permit.

To be sure, they are in some cases made a little larger than they are in others, (but this is only because the jaws are larger,) and there is, perhaps, two or three shades of color.

With these exceptions, they are made as near alike as the mechanical dentist can make them. In fact, he forms in his mind, or makes himself a model of the most perfect shaped teeth he can conceive of.

This he makes his model to go by in all cases. It makes no difference whether the teeth are for an old person or a young one, they are all made alike.

This must necessarily be the case, when the person who makes the teeth has never seen the patient. How can he form them to suit features that he has never seen? If we were to send to an artist who makes artificial limbs, and request him to make a leg or an arm to supply one that had been lost, and send him nothing to go by but the impression of the stump and the length it was to be, would any body suppose that he could make one that would correspond with the natural limb? or, if a person should require an artificial nose, and was merely to send the impression of the surface it was to cover, could any body expect that it would correspond with the other features of the face?

These are as explicit directions as are generally sent to have artificial teeth made. A piece of wax, adjusted upon a plate that fits the jaw, and a tooth the color they are to be, is all the direction usually considered necessary. Then should we be surprised that we find artificial teeth all made alike; or when we find a stout, athletic man, whose features show that he has been exposed to all kinds of weather and has followed some laborious occupation all his life, having the same shape and style of artificial teeth that are placed in a delicate lady's mouth?

Even where the dentist has the laboratory in the house with his office, and has an assistant to do the work, his presence is almost constantly required if he wishes to give satisfaction to his patients, and many of the manipulations he must positively perform with his own hands. He cannot convey the idea of the expression of the patient's face by the most explicit descriptions he can give, and without this it is impossible to arrange teeth to harmonize.

Let us point out some of the manipulations required to insert artificial teeth, and we will see how much can be delegated to another. After the impression has been taken and the plaster cast made, it is necessary (when there are teeth on it) to trim it more or less. It is impossible to get a perfect impression of natural teeth with any substance we now use. Teeth are larger at their crowns than they are at their necks, and generally their points approximate where teeth between them have been lost. This will cause the wax to be dragged up, so that the impression will be imperfect, and the cast require trimming, which should be done by one who has seen the mouth. The metal casts can now be made, a plate struck up, and the clasps adjusted, by

an assistant. They should now be tried in the mouth, each part separately, and adjusted to fit the parts properly.

They should then be cemented together and tried in the mouth, and arranged so as to fit without forcing or dragging the natural teeth in any direction—all this requires the presence of the operator. The different parts of the apparatus can now be soldered together by any person capable of doing it.

The teeth are now to be selected and arranged. This is the most important part of the whole operation. This cannot be delegated to another, but must be performed by the dentist himself, if he wishes to give satisfaction to his patients. When the teeth have been tried in the mouth and arranged to suit, the case may be finished by any person competent to do it.

If we now divide the time required to perform these manipulations as we have separated them, we will find that the dentist will have to be engaged at least twice as long as his assistant; in fact, there is little of the whole operation that can be delegated to another.

If we have succeeded in showing that there should be some harmony between the teeth and the other organs of the face, we think we have demonstrated fully the necessity of the person who takes the impression and puts the case in the mouth, doing at least two-thirds of the work with his own hands.

We have said nothing in this article about the utility of artificial teeth, or the benefits the wearer may derive from them beyond their mere appearance. Their importance in mastication, and the effect they have upon the voice, may form a subject for another article.

For the Dental News Letter.

FREAK OF NATURE.

DEAR SIRS:—I last week had the pleasure of examining the teeth of a Miss Margaret McMahon, of Manchester, Washington Co., Mich., a girl of six years, who had six regular and well defined inferior incisors, with the cuspidati and molars as usual, all of first or temporary set, never having shed any, or had new ones cut, since the usual time for the cutting of such teeth. As it was a freak of nature, such as I had never before seen myself, or read of, to my recollection, I give you this statement, that you may give it to the public, if you deem it of sufficient importance for insertion in your valuable paper.

Yours truly,

J. F. TERRY.

Tecumseh, July 2d, 1853.

For the Dental News Letter.

PHILADELPHIA COLLEGE OF DENTAL SURGERY.

The following interesting paper has been furnished by the Demonstrator of the Philadelphia College of Dental Surgery. We would be pleased to have similar reports from kindred institutions.—ED.

In the demonstrators's department, the time is chiefly appropriated to clinical practice, as much from necessity as intent. Two hours daily are allotted for this, and during this period applications from patients are received; and they either receive immediate attention, or are enrolled for a future day. The majority of cases presented, require the *operative* skill of the dental art, yet there is also great demand for *artificial* substitutes, which subserve the opportunities required to illustrate practically all the adjustments of mechanical appliances.

This paper indicates, by the class of operations performed, that the student can avail himself of the opportunities thus afforded at the chair, to improve the most important part of his education, which is likely to be defective if he relies exclusively upon his preceptor for practical instruction. The liberty of introducing the student to the patient not being at all times admissible in private practice.

The tabular statement which follows, shows that all the important operations required to be performed by the dentist, have been practically demonstrated.

The regular session commenced on the first Monday of November, 1852, and terminated on the first of March, 1853. The weekly clinics were continued on Saturdays until July 1st. The records of the college furnishes the appended result, viz. :—

Fillings,	-	-	-	-	-	-	-	-	273
Treatment of the Nerve,	-	-	-	-	-	-	-	-	26
Cases successful,	-	-	-	-	-	-	-	-	22
Extractions,	-	-	-	-	-	-	-	-	191
Pivot teeth set,	-	-	-	-	-	-	-	-	5
Cases of superficial caries removed by filing and polishing,									9
“ for removal of calculi,	-	-	-	-	-	-	-	-	10
“ insertion of entire sets,	-	-	-	-	-	-	-	-	1
“ “ partial sets,	-	-	-	-	-	-	-	-	3
“ introduction of obturator,	-	-	-	-	-	-	-	-	1
“ treatment of irregularities,	-	-	-	-	-	-	-	-	1

The coming session promises a greatly increased clinical practice.

D. B. WHIPPLE,
Demonstrator.

For the Dental News Letter.

Report of Proceedings of the Fourteenth Annual meeting of the American Society of Dental Surgeons, held at West Point, August 2d, 3d, and 4th, 1853.

The meeting was called to order at 9 o'clock, A. M., by the President, Dr. Eleazer Parmly, of New York. Minutes of the previous meeting were read and approved, after which adjourned over till next morning.

Second morning.—A pretty full attendance of members. Dr. E. Townsend offered the customary resolution, that all members of the profession present, be, and they are hereby invited to attend the sittings of the Society, which was unanimously adopted, and a committee appointed to carry out the spirit of the resolution, by waiting upon all who were in the house.

Treasurer's report read, and a committee to audit, were appointed, who reported all correct.

Committee on microscopic observations reported progress, and were continued.

Committee on Foreign Dental Literature—no report. Committee continued.

The case of Dr. Dwinelle now came up in order, and was, after some discussion, disposed of by a resolution carrying into effect the resolution passed at the meeting held in Philadelphia, August, 1851.

Dr. E. Townsend now read an Essay on "Dental Patents." The subject was ably handled, and the contrast between *Copy-right* and *Patent-right* strongly drawn. The paper will be found in our pages.

Report of Committee on revised Constitution was now made by Chairman, Dr. J. D. White, and the Constitution read, which was received, and committee discharged, and on motion the Constitution was taken up section by section for amendment, revision or adoption, and the whole was adopted as reported, with but slight amendments. The By-Laws next came under consideration, and the article on Dental Ethics, which reads as follows, elicited some considerable discussion:—

ARTICLE XIII.—DENTAL ETHICS.—Any dentist who shall procure a patent for a remedy or instrument of Dental Surgery, or who deals in patent remedies or nostrums, shall be disqualified for membership.

It was contended in opposition to the adoption of the article by a member, that objects looked differently from different stand-points; that what might look unprofessional from one point, would appear not only allowable, but commendable, from another. Again, a discovery, if it

be of an important character, has cost time, labor, anxiety and money, and there should be some compensation received for this expenditure. Teeth and block manufacturers keep their matters secret, and thus hide them from the profession, and are therefore much more blamable than the one who takes out a dental patent. Therefore, patents were the least objectionable, and were allowable in order to secure to the inventor his just rights in the discovery, and to compensate him for the years of toil and research, and the expenditure of money. He further argued that keeping all such matters secret would bring about a truly deplorable condition of affairs in the profession, which could not be said with any force of dental patents; he therefore concluded that a modification of the article, to meet such cases, as patents in mechanical dentistry might be made without compromising the Society or affect its usefulness.

Dr. S. P. Miller followed, asking that, after the time and labor expended in bringing out the important improvement—all outside of the demands of practice—whether there should not be some qualification made, or modification covering such cases. He was neither for or against, but threw out these few remarks for the consideration of the members.

Dr. E. Townsend followed in a few words in opposition to dental patents in a professional point of view.

Dr. J. Parmly continued the discussion in opposition to patents, he was followed by

Dr. J. D. White, who admitted that it was not only lawful but allowable to take out patents. He proposed modes by which the inventor could be compensated for his improvements without taking out a patent. He contended that the manufacture of teeth and blocks was altogether dissimilar, being a business, and that if they were to impart their information, many could not, and more would not avail themselves of it, and all of whom would still look to the manufacturer for their supplies, because of the superior advantages they possessed. Patenting was all right in point of law, but all wrong in a scientific association. He cited the course adopted in medical associations in reference to patents, and added that it was unprofessional and unbecoming in a member of a liberal and scientific profession, and concluded by observing that he was surprised that so intelligent a body of men should hesitate one moment in their decision. Others participated in the debate, after which the article was adopted as read.

The rules of order were now read, and with some slight amendment adopted.

On motion, a committee was appointed to print the revised Constitution and By-Laws. Committee, Drs. J. D. White and E. Townsend.

On motion, adjourned to meet at Cozzens' Hotel at 4½ o'clock, P. M.

Afternoon Session.—Dr. Dunning brought to the notice of the Society a circular pamphlet, evidently designed for a *strong* advertisement, which, on a call from the Society, was read. The reason why the pamphlet was noticed at all was to take some action on the manner in which the author makes public his connection with the Society, which was deemed highly disrespectful and unwarranted, and demanding some action by way of rebuke. It was laid over for the present.

The committee appointed at previous meeting to confer with Dr. C. A. Harris in reference to bill for printing the tabular sheet, reported. A letter from Dr. Harris to the President, on the same subject, was also read. On motion of Dr. Dunning, the action of the committee was endorsed, and committee discharged.

Dr. E. Parnly offered the following resolution, which was carried :—

Resolved, Therefore, that the matter of Mr. Wood's bill be laid over until such time as Dr. Harris shall be present, and give to the Society such explanation as he may have to offer touching the matter, when every member of the Society will feel pleased in acting in his behalf according to the testimony that he may adduce.

On motion of Dr. J. D. White, seconded by Dr. Dunning, the following resolution was adopted as a *By-Law* of the Association :—

Resolved, that any member of this Society who shall extol his own peculiar merits over a fellow practitioner in the public prints, or employs means of advertisement which may be regarded by this Society as lowering its dignity or compromising its character, shall be impeached, suspended or expelled.

Third Day, morning Session, Aug. 4th.—After some preliminary business and corrections to previous day's minutes,

Dr. A. C. Hawes inquired whether the 13th article of By-Laws affected a member using a patent instrument ; it was decided that it did not.

Dr. Goddard moved the appointment of a committee to take into consideration the misunderstanding which had occurred between Dr. Harris and the Society's committee on tabular sheet, which committee reported a resolution condemnatory of the course of Dr. H. in the transaction.

On motion, the Secretary was authorized to transmit to Dr. Thomas Palmer a copy of the Constitution and By-Laws.

The Society now went into an election for officers in the following order :—

Examining Committee.—Drs. J. D. White, C. C. Williams, E. Townsend, A. C. Hawes, Joshua Tucker.

President.—Dr. E. Townsend.

Vice-Presidents.—Drs. J. Tucker, J. H. Foster, and Goddard.

Corresponding and Recording Secretary.—Dr. D. R. Parmly.

Treasurer.—Dr. E. J. Dunning.

Librarian.—Dr. D. R. Parmly.

Publishing Committee.—Drs. J. D. White, D. R. Parmly, and E. Townsend.

Committee on Inventions and Improvements.—Drs. E. G. Tucker, J. Parmly, and J. D. White.

The following were appointed to deliver Essays at next meeting :—Drs. Robertson, A. C. Hawes, A. Westcott ; C. C. Williams, and E. G. Tucker, and Dr. J. Parmly to deliver the opening address.

Place of Meeting.—It was decided that the next Annual Meeting be held at Cincinnati, Ohio, on the *First Tuesday* in August, 1854.

A vote of thanks was returned Dr. E. Townsend for his very able address ; and a similar vote to Dr. E. Parmly for the courteous manner in which he had presided ; also, a similar vote to the Messrs. Cozens (the proprietors of the hotel,) for the very obliging and accommodating spirit which they had manifested towards the Association.

Dr. S. P. Miller presented a pathological specimen involving the loss of five teeth, caused by treatment of the pulp ; after which the Doctor gave a history of his first treatment of pulp by drilling.

Adjourned to 4½ o'clock.

Afternoon Session.—As soon as organized, the following gentlemen were unanimously elected members :—Dwight Tracy, M. D., D. D. S., Willimantic, Ct. ; J. S. Clark, D. D. S., New Orleans, La. ; Francis Field, Dentist, Waltham, Mass. ; R. P. Berry, Newport, Rhode Island.

After which the Society adjourned to meet at Cincinnati, Ohio, first Tuesday in August, 1854.

This meeting was well attended, and the utmost harmony and good feeling prevailed ; indeed, we never attended a more pleasant or agreeable meeting of the profession.

We were much pleased to see Philadelphia so well represented, both in membership and visitors, proving, as it does, the interest felt in the advancement of the character and interests of the profession. Our Philadelphia folks are not lacking in *esprit du corps*.

An error as to the time of meeting occurred in the published pro-

ceedings of the previous meeting of this Society, by which some of its members and others were led astray, among whom, we regret, was Dr. T. W. Evans, of Paris, who arranged his visit to this country with a view of attending this meeting, having a matter of some importance to bring before the society, viz., the regulation of teeth. (It will, however, be given in our pages hereafter.) The error was in stating that the next meeting would be held on the *second* Tuesday in August, 1853, when it should have been the *first* Tuesday.

Although present at the previous meeting, with a view of obtaining minutes of the proceedings, yet on finding Dr. Hill, of the "Dental Recorder," engaged at the same work, we deemed one sufficient, and depended upon his report as published in the "Recorder" for August, 1852, from which we copied them. The error, therefore,—which was purely an oversight on his part—is not chargeable to us, although we should have noticed and corrected it.

J. R. McCURDY.

DENTISTRY IN PRUSSIA.

Translated from the Berlin "Dentist," a monthly Periodical.

BY B. COHEN.

"MUNICH."—The government paper, No. 7, contains a royal order of the 31st January, on the study and practice of dentistry. The practice of dentistry belongs, of right, to the regularly qualified surgeon or physician; but, beside these, permission to practice may also be given by the authorities, to such persons as have received to this end a special education, and can give proof of this. The theoretical education is to be looked for at a complete latin school in a university, and especial attention must be paid to the study of anatomy, particularly of the head and the organs of mastication, and lectures on general and operative surgery, with special reference to the operations on the teeth.

The practical education—the technicalities of dentistry, with reference to the making, inserting and fastening of artificial teeth—is to be acquired from a scientific dentist, and must be attested by a certificate.

The examinations on theoretical and practical dentistry, will be held by one of the medical faculties of the three universities. Certificates, for the practice of dentistry, will only be given to such candidates as have proved their qualifications in all the above named branches.

THE INSERTION OF TEETH UPON PLATINUM PIVOTS.

MESSRS. EDITORS :—The idea has frequently suggested itself to my mind, that the value of our dental periodical literature would be materially enhanced, could the majority of the members of our profession but be induced to communicate, for the columns of our journals, all important facts which may come to their knowledge—the success or failure of all experiments, either in the surgical or mechanical departments of the art, or to make such inquiries as their various exigencies may seem to demand. The probable value of such a course of procedure cannot be too highly estimated. It would call out much talent now utterly unavailable—would tend to the diffusion of a vast amount of useful information on a variety of subjects, more or less intimately connected with our profession—and, what is, perhaps, equally important, would beget in our younger members a habit of writing—the ability to communicate readily and accurately their ideas, and would tend essentially to the formation of a correct literary taste.

The time has passed when the surgeon, dentist and village barber, were synonymous—when alike the mouths and chins of community were visited by turnkey and razor from the same barber-ous hand; and a few years probation in the work-shop of the watch-tinker or silver-smith, with occasional *soft-solderings* of old plates, in the absence of the dentist, no longer constitutes a proper course of study and preparation for an entrance upon the arduous duties of our profession. The untiring efforts of a host of good men and true, in our ranks—the united exertions of our ably conducted monthly and quarterly publications, to raise the standard of dental education, have been crowned with a good degree of success. Dentistry is now happily taking its rank among the learned professions, and receiving that attention from all classes which its importance demands.

But the end is not yet. Much remains to be done for the elevation of our profession, the accomplishment of which rests almost entirely with the great mass of its members. The influence exerted by a Harris, a Townsend, or a White, though extended and powerful, is by no means omnipotent. But the many thousand dental practitioners, scattered over our country, exert a controlling influence over the destinies and prospects of the profession. It rests with them to say whether quackery shall be countenanced—whether every month shall witness the going forth from their midst of a host of unfledged “dentists”—or whether a thorough course of preparatory study, and a diploma from a dental college, shall be insisted upon and rigidly enforced.

Every dentist has instruments of his own adaptation, of which he is particularly proud; sundry methods for the performance of various mechanical and surgical operations, upon which he places a high value as being his own private property, and numerous expedients resorted to in cases of particular emergency, which perhaps are all unknown to his neighbor. Would it not materially increase the value of your journal, if every subscriber would communicate all facts of this description to its columns, with his success in the application of all new discoveries, and his opinion of the value of all suggested improvements. Is it not possible that I am conferring a benefit upon some worthy brother of the profession, when I assure him that I consider Hill's vegetable preparation an exceedingly valuable temporary stopping? That I should find it almost impossible to succeed in adapting atmospheric plates to projecting alveolar borders, without the aid of Hawes' sectional moulding flask? That the operation of Hüllihen has succeeded in my practice in more than ninety and nine cases out of every hundred, and that I consider it of inexpressible value? That the lathe of Chevalier, I consider the most compact and convenient of any manufactured? That flax-cotton, for drying cavities, I find infinitely superior to any other preparation? and that Morson's file-carrier I believe to be worth a half-dozen of any other ever invented? And if practical hints of this character are of value, can they be too often reiterated?

In this connection, allow me to communicate a description of the method which I make use of for the insertion of pivot teeth, and which I believe to be new to at least a portion of your readers. I have, for some time past, discarded almost entirely the use of the wooden pivot, using, instead, pivots of gold, silver or platinum. Until within a few months, I have adopted the method of grinding through the inner surface of the tooth to the pivot cavity, and immovably fastening the metallic pivot in its position, by running solder upon it through the cavity thus formed, in sufficient quantity to form a head. I consider this an excellent method, though the manipulation is not always successful, owing to the difficulty of running the solder upon the small portion of the pivot which presents itself at the minute orifice thus obtained.

But the method, which a few months since I adopted, and which I most highly approve, is as follows:—Having selected the tooth, and adapted it, by grinding, to its place of destination, I take a piece of platinum wire, about one-third smaller than the pivot-hole in the tooth selected, and file upon its surface, at one end, a few irregular notches;

inserting the notched end of the wire in the tooth, and placing it in the centre, or at either side of the cavity, according to the necessities of the case, I proceed to pack around it, by the aid of proper plugging instruments, as large a quantity of jewelers' "soft enamel" as can be introduced. This being done, I imbed the tooth, with its cutting surface down, in plaster, to which has been added a quantity of sand or asbestos, leaving only the pivot and the orifice of the pivot-hole, with its contents, exposed. Heating the job in the furnace, to redness, to expedite the process, I remove, and apply the blow-pipe, until fusion of the enamel occurs. The tooth, when cooled, will be found to be firmly connected to the pivot by the intervening enamel, and will resist every force which may be applied for its removal. I proceed to cut the pivot of a proper length, file to a square form, and point it, and cut from the butt of the tooth towards the point of the pivot, numerous barbs, to retain it more firmly in its place. I then fit a piece of some close wood—of which I prefer the locust—to the cavity previously formed in the root, in the usual manner, push the pivot to its place, and have a firm, substantial and elegant piece of work.

The advantages of this method are obvious. The pivot can be filed in any shape, and bent as may be desired, and thus an accurate adaptation of the tooth to any case is insured. I should have preferred, however, the gold pivot to the platinum, for various reasons, were it not for its liability of fusion, from the very considerable heat employed. The soft enamel can be obtained of some of the watchmakers in our larger cities, or by pulverizing the enamel of an old watch-face. I believe that a trial of this method by the profession, will lead to its very general adoption; and I should not omit to mention, that I was led into a series of experiments, which have resulted so satisfactorily to myself, by some suggestions made by my friend Dr. Alphonso Severance, of Somersworth, N. H., a most worthy and devoted member of our profession.

In conclusion, permit me to say, that I propose communicating other facts which I believe to be not generally known, and which have come to my knowledge, in various departments of our art, should this prove acceptable.

FRANK FULLER.

Portsmouth, N. H., Aug. 30, 1853.

We agree very fully with Mr. Fuller that every one in our profession ought to communicate the result of his observations and experiments, and warmly solicit such contributions from all quarters. J. D. W.

Treatment of Dental Caries, complicated with Disorders of the Pulp.

By Prof. R. ARTHUR, M. D., D. D. S.—This is the title of a small volume recently issued from the press of Messrs. Jones, White & M'Curdy. It is written with that clearness of style, and bold, yet modest, assumption of facts and theories, so strongly marked in all the previous writings of this gentleman.

It is not my intention, at the present moment, to review as fully as I desire, this truly able production. Indeed, at this usually busy season of the year, one can hardly be posted in the current events of life, and find time to *read* even, with that closeness and care any work in which he is sufficiently interested to criticise or comment upon. Still, as there are one or two prominent positions occupied by the Doctor, which I conceive to be of vital importance to our profession, and which are urged with all the force of honest conviction on his part, to which I cannot accede, I should feel remiss in my duty if I did not thus early enter my objections.

That which seems to require mostly my attention, at the present moment, has reference to allowing any portion of decayed substance to remain in a tooth, knowingly, previous to filling it. Before uttering a word condemnatory of such practice, I beg to say that, from what I have felt myself—from what I have always understood to be the feelings and views of the best informed in our profession in relation to this matter—I little expected ever to be called upon to submit my views on the subject, especially for the eye of my professional brethren. It is, therefore, with peculiarly mixed feelings, and those of repugnance at opposing any positive assertion that may emanate from high authority, not the least prominent, that I enter upon this task. My personal acquaintance with, and respect for the character of Dr. Arthur, infold all this.

The article, commencing on page 46—"I deny, positively, the truth of the statement so often made, that caries of the teeth will *always* continue to progress, after it has once set in, unless every particle of the decayed bone be removed from contact with that which is healthy"—does not, I think, convey a full and just idea of a true dentist's opinion of the character of caries, under all circumstances. We are very well aware that there is a species of decay, denominated the "black" or "hard dry rot," which, if it progresses at all beyond a certain point, is so exceedingly slow as not to be perceptible. This is decomposed dentine, that at some former period possessed all the peculiar characteristics of *recent caries*, and was as liable, at that time, to progress and prove as destructive as that which demands our most

urgent care. This change may be effected in a variety of ways. An improved condition of the general constitution, whereby the juices of the mouth may become much less acrid—a change of diet, particularly of waters, which may, of themselves, possess a neutralizing effect upon the acid contained in the perished bone—the habit of using camomile flowers, chewing sticks, tobacco, &c.—may all have a tendency in bringing about this change; and last, though by no means the least agent which acts as an alterative, is that hard, stony deposit, known by the name of “tartar,” and to which the Doctor very justly alludes; [page 50.]*

I said an injustice seemed to be conveyed as to the impression upon the mind of professional men, in regard to the pernicious effects of decayed dentine upon its healthy substance. This wrong impression is given by the word “always,” in the quoted paragraph, and which I have taken the liberty of italicising. But there is another injury embraced in connection with this, and that Dr. A. inflicts upon himself. Now, after all that has been said upon the nature of this peculiar *inoffensive* dry caries, this is not the *gangrene* which is to be taken into the account when we come to treat and fill certain teeth, as recommended by our friend. Those teeth which are already, or are about to become painful from caries, have generally progressed, in the most rapid manner, on their road to destruction; and every layer of diseased, or partially decomposed dentine, has contained, within itself, enough of the corroding principle to corrupt and destroy any healthy substance with which it is in contact. Of the truth of this assertion, we have as much evidence as that the sun rises in the morning and at evening sets; and very much of the same character of evidence in one respect, at least, for it is of daily occurrence. This is the dividing line by which we have heretofore distinguished the good from the bad practice, in this department of our calling.

Dr. Arthur tells us that he has, in several instances, filled *tender* teeth, and left considerable portion of decayed substance over the nervous pulp, as a preventive to subsequent inflammation and pain. Dr. A. is too honest to do a thing of this kind without telling it. If I could believe that a doubtful tooth could be benefitted by such treatment, I should be very loath to admit it, if it were only for the encouragement it would afford to that class of men who either do not know, or do not care, to perform a thorough and honest operation. But

* It is not a little singular, from the manner in which this whole paragraph is managed, that by any possibility the Doctor could have reasoned himself into its concluding deductions.

I do not believe that the cases cited by Dr. Arthur could not have been saved by a more thorough and perfect mode of filling. The mere fact that a metallic filling is placed into a defective tooth with sufficient force to be likely to remain there, and not produce the most serious inconvenience, under the circumstances in question, is *prima facie* evidence that *more* of the decayed portion could have been removed with equally happy results. I cannot think, as a general rule, that the experienced dentist is liable to mistake healthy new formed dentine for softened decayed substance. But even a possibility of such error does not effect the position I would assume in this matter. I as firmly believe that the smallest portion of caries, confined in the cavity of a tooth, unless effectually deprived of its acid property, is fully capable of extending itself to healthy substance, as that any deeply seated necrosed bone should continue to spread and throw off its ichorous matter, unless arrested by extirpation. I am of the impression that the cases are quite parallel. Both are protected from the action of the atmosphere, and subject to the influence of no other destructive agents than those *generated by themselves*, after the remote violence which has induced the disease.

The work under consideration is a collection of "papers," that have been heretofore published in a series of six numbers. Consequently, some little time necessarily passed between the writing of each paper. It will be seen that one or two modifications present themselves, and that the author is a rigid inquirer after truth.

As the treatment and final extirpation of the dental pulp and its accompanying vessels, occupies a considerable portion of its pages, and as yet the use of arsenious acid is, to a certain extent, a mooted point, it is certainly desirable to obtain as much information from combined experience as possible, both as regards this and other agents. It, therefore, may not be improper, in connection with the foregoing, that I should say a few words upon this subject. I have been in the constant use of arsenic, in my practice, for *eighteen* years. That is to say, about one year previous to its public recommendation. (Don't start, gentlemen, I am not going to interfere with any man's laurels.) I think it was in 1834 or '35, that my brother, Dr. J. F. Flagg, of Boston, was on a visit to Montreal, where, meeting with Dr. Spooner, of that city, he learned the use of this material. It was at that time an experiment in the hands of Dr. S., as indeed it has been ever since in those of the profession; but this gentleman was sufficiently satisfied of its efficacy, in a large number of cases, to make the matter known to such as he had reason to believe would not abuse its use. The

method of using it at that time was, as now, equal parts by weight of arsenious acid and acetate of morphia. These were held together, in form of a pill, by means of a solution of gum arabic, and placed in that form into the cavity of the tooth, being held there and protected by means of cork and other agents. I soon discovered that much subsequent inflammation followed this method of using it, and I very soon added kreasote to it. Here, I will say, I do not know of any one who used the kreasote as a substitute for gum liquid, or in any way in connection with arsenic, previous to myself.

I am very well aware, that many of my professional brethren are not altogether satisfied with the use of this agent, and some, indeed, have abandoned it entirely in their practice. If it is very uniformly successful in the hands of some, for a period of eight, ten, and fifteen years, and the reverse with others, for any suitable period of time, it seems to me a very natural inference that the successful and unsuccessful do not use it alike. As I profess to be one of the former in this category, and as my method of application is somewhat different from any that I have seen published, I will state it in as few words as possible:—

I obtain my arsenic and morphia; mix them thoroughly together, and keep in a vial, dry. When required for use, I moisten a small piece of cotton cambric with kreasote, and touch it to the mixed powders, taking up not more than the thirtieth or fortieth part of a grain. After placing the powdered side of this cotton in contact with the nerve or sensitive bone, I place another clean, dry pledget over this, and secure them in position. At the end of *five* hours, I direct my patient to remove these bits of cotton, and to thoroughly rinse the mouth with cold water, then to place into the cavity a fresh clean cloth, or crude cotton, and let me see the case the next day. It may seem very strange to those who have applied these articles for twenty-four or forty-eight hours, when I assure them that I find 95 per cent. of my cases, under these circumstances, so effectually freed from pain, that I can immediately proceed to the operation of filling. Such, however, is the fact, and with no more liability to subsequent inflammation than what seems to exist in the practice of those who furnish us with the most favorable and successful lists.

In order to allay the inflammation of dental fibre in an exposed cavity, I pursue the same course as above—taking care to use the smallest perceptible quantity, and being equally particular to fill within twenty-four or forty-eight hours after.

Sept. 20th.—A case in point has just presented itself in my prac-

tice. A lady called upon me, yesterday, to have filled the right inferior cuspid and adjoining lateral incisor, proximal surfaces. They were both tender—cuspidatus particularly so. I placed an exceedingly minute quantity of this preparation into the most sensitive cavity, and allowed the same pledget which held it there to run over into the other tooth. Upon this I placed another piece of cloth, folded six or eight thicknesses, to protect the lip. When I saw the case this morning, no sensation remained in either tooth.

I do not believe the arsenic is so well qualified to act upon animal fibre, after it has been held in solution for any length of time by the kreasote, as by a fresh application of it in its natural condition; and to this I am disposed, in great part, to attribute my success.

The fifth and sixth chapters of this little work will be read, I think, with peculiar satisfaction. They show that our brother is most earnestly laboring in the good cause. His directions are perspicuous and ample to secure, for all who desire it, the most lasting and perfect operations.

NOTE.—It will be seen that the foregoing remarks bear somewhat the impress of hurry and irregularity. Still, in the writing of them I freely admit my interest in the subject has been materially quickened, and I hope to be enabled to prepare for your next number, a paper in continuation, at least less liable to these objections.

Respectfully, J. F. B. FLAGG, M. D., D. D. S.

Philadelphia.

MEMOIRS ON A FEW FUNDAMENTAL POINTS OF DENTAL MEDICINE, CONSIDERED IN ITS APPLICATION TO HYGIENE AND THERAPEUTICS.

BY A. F. TALMA, M. D., DENTIST TO THE KING OF BELGIUM, &C. &C. &C.

TRANSLATED BY C. A. DU BOUCHET, M. D., D. D. S.

First Series. Brussels, 1852.

[Continued from page 233.]

The diseases of milk teeth frequently become the cause of accidents or complications, which hinder and render laborious the second dental eruption. The caries of the incisors and canines is generally of little importance, and may be neglected without inconvenience. Such is not the case with the molars. Among children, these teeth frequently decay several years before the natural epoch for their being shed. At the commencement of the caries, when the alteration of the tissues is still very limited, and when pain has not yet been experienced, it is proper, if the disposition of parts allows it, to fill them with much care. This

operation has the twofold advantage—first, to preserve for a longer time organs useful for mastication, and the regular development of the dental arch; second, to save the patients those frequent paroxysms of pain, which must have a bearing upon the health. Beneath the metal obturating the caries, and sheltered from the contact of air and articles of food, the morbid labor is checked, if not entirely stopped, and the dental pulp is gradually destroyed in an insensible manner.

When the caries is already deeply seated, and when the cavity it has dug out is painful, or merely irritated by the contact of an instrument, a favorable opportunity to fill it no longer exists. At this period, the operation of filling would almost infallibly cause the exasperation of the morbid condition, constant abscesses, or other accidents, which might render a premature extraction necessary. It is essential to avoid such a result or termination.

As a sequel to such affections, in lymphatic or cachetic children, it is not rare to notice the appearance of denudations of the alveoli, and partial necrosis of the alveolar ridges, or even complete necrosis to a lesser or greater extent. The inflammation of the teeth is gradually extended from the gum to the periosteum, thence to the bony tissue, and causes denudations, and sometimes ill-looking ulcers, recalling certain forms of cancer. The permanent teeth, making their appearance under such circumstances, often remain loose or require to be extracted soon after their eruption. We should add that the affections we have spoken of are the more ordinarily local, and do not appear to have any bearing upon the system.

A strengthening diet, bitter tonics, detersive applications, a great cleanliness of the mouth, and when the pain becomes intolerable, the extraction of the carious teeth, are the means to be employed to obtain a restoration to health of the diseased parts.

I must not omit, in closing this paper, a general remark of the highest importance; I have constantly noticed, that in cases similar to those just now described, hygiene, either as a prophylactic or curative means, is the most useful and rational remedy. Not only the constitution of the teeth, but also their easy eruption, are dependent upon the conditions of health and vigor of the young subjects. Delicate, irritable children, born and raised in large cities, suffer most by their second dentition, as well as by their first. Hence the necessity of creating or establishing for them, as far as possible, a healthy and vigorous constitution, by means of continual exercise in the open air, frequent baths, healthy food, and a well-regulated physical education.

III.—ANOMALIES.

I shall but briefly allude to the anomalies of which the teeth have given examples, respecting the various periods of their appearance, their number, their continuation in the mouth, or their shedding. Most of these deviations from the general, natural law, depend from individual organic conditions, so deeply hidden that, most commonly, we only can oppose their results, but are unable to prognosticate them and oppose prophylactic means.

Like that of deciduous teeth, the eruption of the permanent teeth is precocious or slow. A great number of celebrated men are cited by biographers as having been born with incisors and even molars. Louis the Fourteenth was like the first, and Mirabeau like the latter. Among the ancients this phenomenon indicated an uncommon vigor, and, although comprising many exceptions, this belief is, however, in conformity with the most general observations. As regards the second dentition, it is not rare either to see permanent teeth cut in advance of the usual time, even at times when the corresponding deciduous teeth are yet perfectly firm, or to observe their tardiness to appear long after the premature loss of the deciduous ones, or even their entire deficiency. M. Duval relates the extraordinary case of a magistrate of Frederickstadt, who never cut but his permanent molars, and was entirely deprived of incisors and canines.

I have seen an upper canine cut at the age of twenty-five, two inferior bicuspedes at thirty, and wisdom teeth, in the case of a lady, at sixty. There is hardly any dentist who has not witnessed anomalies of this kind, of which it would be difficult to give a satisfactory explanation. For it cannot well be understood on what account the growth of certain teeth, arrested during many years, should resume, at a given point, its activity, increase the length of their roots, and compel the part clothed with enamel to burst forth and overcome the very considerable resistance of the tissues completely covering them.

The delay noticed in the eruption of deciduous teeth, sometimes appears to be in consequence of the weakness of the constitution, and the debility of organic movements in certain lymphatic and delicate subjects. M. Duval has related a case precisely in point.

Alphonse Leroy has also stated, in his "Treatise of Maternal Medicine," that the dentition is delayed, if the child be puny and the issue of debilitated parents, or insufficiently fed.

The want of permanent teeth has been noticed, not merely partial but total. It may depend either from the primitive absence of dental germs in the foetal organization, or from diseases severe enough to

destroy those germs, during the early periods of life. M. Oudet has found, in his anatomical researches on the fœtus, the dental germs inflamed and suppurating, and as this skilful observer remarks: "There is not much question that had those subjects lived, they would have been deprived of the teeth whose rudiments were thus destroyed, or in process of destruction." These facts recall what I have already mentioned in regard to the influence exercised by pathological affections, more or less grave, on the teeth undergoing the process of formation. In such cases, where that influence is exerted to a high degree, the teeth, instead of merely undergoing alterations in their tissues, may be completely destroyed. M. Maingault has related the case of a lad of the age of eighteen, whose permanent teeth had not yet appeared. M. Murat saw an adult, whose deciduous teeth, almost entirely worn off, still persisted.

"Nature," says with much reason, M. Duval, "sometimes preserves deciduous teeth to fill the place of permanent ones. The roots of such teeth are not absorbed like those that are shed, and they remain, *in situ* with some mobility. Usually shorter, more yellow and worn than the others, they remain in the mouth until the age of forty and upward. This phenomenon is observed particularly in regard to the deciduous molars; it is very important to bear it in mind, so as not to uselessly extract them."

The cases in which deciduous teeth are either not shed, or are so at a late period, are exceptions, but they are numerous enough to deserve notice.

The exaggerated number of teeth is most ordinarily owing to the abnormal persistency of a few deciduous teeth, anteriorly or posteriorly to which the permanent teeth were to arrange themselves. These cases, not uncommon, merit all the attention of the operator. The deciduous tooth should be removed in every case rather than sacrifice a permanent one; the permanent tooth will naturally, or with the assistance of art, resume its usurped place. But it is not always perfectly easy to discriminate which is which, and I have seen in similar cases, very deplorable mistakes made. Although paying due attention to the account of the case, as related by the patient or friends, the dentist should make a very thorough examination of the characteristics of the teeth regarding which any doubt may exist. Permanent teeth, relatively to deciduous or milk teeth, are more voluminous, of a less milky white, of a more solid appearance; not having undergone wear by usage, their anfractuosities are sharper. These peculiarities,

which habit teaches us how to distinguish, must be noted with care, in order to avoid grave errors, unluckily too often committed.

Real supernumerary teeth are rare. Besides, the fabulous cases of double rows of teeth related by the ancient writers, more modern ones have been mentioned, which we cannot reject. * * *

When supernumerary teeth produce neither deformity nor inconvenience of any kind, we should not interfere with them. But when they do, which usually happens in regard to canines, and far more so in the case of molars, art must be put in requisition. According to the situation and direction which they assume, supernumerary teeth frequently hinder the motions of the tongue and cheeks; they irritate those parts, ulcerate them sometimes, and become the incessant cause of suffering, or, at least, great inconvenience. In such cases the indication is obvious; they must be extracted, although the operation may not be exempt from difficulties.

Among the anomalies sometimes presented by teeth of the second dentition, I could not omit the union, or rather confusion, of several teeth into one. The cases of dental rows composed of one single piece, related by the ancients, must be rejected by sober science. But it is not the same with the isolated soldering of a few teeth in consequence of the abnormal approximation and growing together of their still vesicular germs. M. Oudet, and several other dentists, have observed cases of this kind. The most remarkable I have noticed, was a central and a lateral upper left incisors, inserted into one large tooth, with hardly any indentation at the line of junction. M. M. Desirabode thinks that the canine and lateral incisors are the teeth most liable to unite. These cases are curious, but offer no practical indication.

The annals of science have preserved the history of a few aged persons in whom nature has retrieved, by the means of a sort of third dentition, the loss of adult teeth worn out by age, or spontaneously expelled by the atrophy of the gums. These supplementary productions, extremely rare, are almost always irregular, partial, and more or less deformed abortions. Their development is seldom a benefit, and they furnish no useful assistance in the performance of functions. Far from that, scattered upon a barren alveolar ridge, without support from neighboring teeth, having no antagonists in the opposite jaw, loosely set in their position, they usually rather hinder mastication than facilitate it, irritate the gums, and even sometimes cause such inconvenience that their extraction becomes imperative.

We do not see these anomalies only among aged subjects; some-

times, also, children and adults display these freaks of nature. Among the most curious examples of these multifarious dentitions, I will quote that, which a respectable practitioner has related in the *Bulletin de Therapeutique*, for September, 1837. This fact exhibits at the same time, the exceptional fecundity of nature and the fragility of its too often repeated products. This case is that of a child, thirteen years old, whom the doctor has seen and known from his birth. This child, says Dr. Licon, a physician of Donzy, accomplished his second dentition at the age of nine. Soon after, several teeth became loose, and displayed new teeth. The twenty-eight teeth were thus shed and renewed in a short time. Between the age of ten and eleven, the same phenomenon occurred a second time. From eleven to twelve, same shedding and removal of all the teeth. Finally, at the time when that child reached his thirteenth year, a sixth dentition was progressing; the first large molar being shed, being expelled by a similar one, quite visible. The teeth which nature thus renewed so promptly had no roots; they seemed to have been entirely absorbed; destroyed. Their shedding and the consecutive eruption took place in the usual order. The child was well, and experienced no annoyance. The gums, overtaxed by this continuous labor, were rather red and swollen. The teeth were small, white, and regularly arranged.

We cannot doubt but facts of this kind arise only from an abnormal prodigality in the number of germs intended for successive development. Lemaire found at the extremity of the root of a superior canine, which he extracted for a girl of sixteen, three other much smaller teeth, which had grown with the former. M. Oudet, having removed a voluminous tumor, implanted at the right side of the lower jaw, found it to contain at least twenty-five teeth, distinct from each other in form, position and direction. They were united together either by direct contact, or by a solid reddish-yellow substance. It is evident that in this case, had circumstances permitted, there would have been, as in Mr. Lizon's case, a series of more or less numerous dental eruptions, probably quite as imperfect.

However, cases of this description are far from being all properly authenticated. The fondness of men for the marvelous must have allowance made; we can appreciate these cases only from accounts relating to distant periods, and it is not strange that with the help of the imagination, the mere approximation of two neighboring teeth may have been taken for a new eruption. The dentist would commit a very serious error if, supposing such exceptional facts to be positively exact, he lightly and without absolute necessity sacrificed, even in the case of

young subjects, permanent teeth, in the hope of seeing them replaced by new ones. Nature does not thus keep in reserve, at our wish, supplementary follicles, in order to retrieve eventual losses. In this respect, there is no more prospect of replacement for adolescence than for old age.

IV.—ARRANGEMENT OF THE TEETH.

Having prepared, as far as practicable, by hygienic cares, a good constitution and the easy eruption of the permanent teeth, overcoming, according to the nature of the case, the accidents which may follow from the eruption of these organs, it is important to follow and observe with care the progress of the second dentition, so as to prevent or correct in the outset the irregularities which may occur.

Owing to an admirable mechanism, nature, although maintaining during first infancy the anterior portion of the dental arches in the same dimensions, has not, however, debarred the body of the jaws from the general laws of organic development. On one part, the deciduous teeth have been enabled to preserve, until being shed, their primitive relations, and on the other, the deeper soil—if I may thus express myself—inclosing, and from which the permanent teeth are to issue forth, has increased in proportion to the size required by the latter. This enlargement, which continues until the complete formation of the bony structure, proceeds in every direction, and carries the maxillary angles backwards as well as the symphysis forward.

The special labor for the growth of the germs and crowns of the permanent teeth constitutes, for the jaws, and especially for the alveolar ridges, a local cause, active and powerful, for development. Larger than their predecessors, the permanent teeth make for themselves, by main force, thus to speak, the room necessary for them in the dental arch. Hence the advantage resulting, for their regular arrangement, from their erupting successively and in proportion to the motion of extension operated in the whole system.

I propose to explain, in a subsequent memoir, with all the requisite details, the history of the multifarious causes, more or less deeply situated, occasioning the deformities of the mouth, which the dentist may be called upon to remedy. I could, at this point, indicate those causes, but in an incomplete manner, making myself liable to useless repetitions. I shall, then, now confine myself only to the direction of second dentition, in the most ordinary cases, and beyond, the normal organic dispositions which may interfere with it.

(To be continued.)

THE DENTAL NEWS LETTER.

OCTOBER, 1853.

SALUTATORY.

To the Patrons of the "Dental News Letter," and the Public in General.—In accepting the call to act as one of the editors of this periodical, we feel it to be an incumbent duty upon us to acknowledge to them the honor that has been paid us in having been chosen to preside over its columns, and to pledge ourselves, in assuming those responsibilities, to do every thing within the scope of our abilities that usually belongs to the position. While every encouragement will be given to a free and liberal discussion of every scientific and practical topic which appertains to our profession, so that a large interchange of useful lessons of professional experience shall be enjoyed by all to the greatest possible advantage; still, it will be our constant care that every communication or discussion shall be kept as free from personality or illiberal inuendo as possible. This is ground on which all who come with the truth, shall be equal. It is facts, plainly stated, and scientific, and experimental truths, as free from individuality as they can be, which our profession most needs, to give it the rank among the learned pursuits of life, which its intrinsic merits deserve. Aided by the long experience of its former able editor, J. R. McCurdy, Esq., we hope to be able to bring such efficiency to bear in the discharge of the duties belonging to the publication, as to insure a still larger circulation, as well as to increase the dissemination of useful information. For this, also, we solicit the continuance of contributions from former correspondents, as well as from new ones, knowing that a large number in the profession, from unnecessary diffidence, refrain from communicating their golden lessons of experience.

J. D. W.

Enlarged Edition.—In consequence of the sixth or last volume of the News Letter having been nearly exhausted, (only some twenty copies now left on hand,) and with the expectation of an increased demand, we have concluded to issue five hundred copies more of the present than previous volumes, which will make our circulation three thousand copies.

J. R. M'C.

See cover for advertisements of Philadelphia and Cincinnati Dental Colleges.

Dr. S. P. Miller and his Review.—Since the publication of our July number, a long article from the pen of Dr. Miller has appeared in the June and July numbers of the “Dental Recorder,” in which the writer reviews Drs. Cone, Gardette, and ourselves, and we must say it is done with an earnestness truly refreshing.

For ourselves we have a few words to say, leaving the others, in whose company we have had the honor to be found, to speak for themselves, as they are abundantly able to do.

After noticing, at some considerable length, the above named gentlemen, the writer approaches our heretofore humble self in the following off-handed manner : “ There remains one other individual to be noticed in this discussion,” etc. This has a very decided business air, and seems to say, “ Having disposed of these *two*, I will soon settle the hash for this *one*.”

But seriously, the doctor seems to have thought we were his enemies, and were combining with others, to injure him, or in other words, that as what we did say did not seem to sustain him, we were, therefore, opposing him. That those who were not for him were against him. In this conclusion he is wrong. What we have said heretofore on this subject, was said neither as friend nor enemy, and when we stated in substance that the doctor was present at the meeting of the Society, and should have made known his discovery then and there, especially as Dr. Hullihen’s operation had been so fully described, we did so in perfect good faith ; it never entering into our mind that the assertion was other than true, or at all questionable. But the doctor took us up on the assertion in rather a savage manner, and at the same time reads us a lecture on the duties of an editor, thus dragging in matter entirely foreign to the subject, and calculated only to provoke. To this we replied in plain language, repeating our previous assertion of his presence at the Society, because we had seen nothing to change our convictions, but, on the contrary, much, concurrent testimony, from letters and verbal communications to establish the truth of them.

Thus much for the reasons why we adhered to our original statement. We now come to the gist of the whole matter of difficulty between Dr. Miller and ourselves, viz. : “ Was Dr. S. P. Miller present before the close of the meeting of the Society, or was he not ? ” “ That is the question.” We unhesitatingly answer, that up to the time of the appearance of the last article from Dr. Miller, in the July number of the Dental Recorder, we were positive of his presence at the meeting, but the affidavits of Dr. Hawes, of Providence, and Dr. Heywood, of Worcester, embodied in the communication of Dr. Miller, and pub-

lished in the July number of the Dental Recorder, staggers our faith, and we now freely acknowledge that we begin to think we were in error. Yet the impression on our mind was so strong, and the opinions of most of those present were so positive, that Dr. Miller was there, that we were surely excusable, nay, that we were justifiable in maintaining the ground until we were convinced we were in error. Yet we are willing to give the doctor the benefit of a strong doubt, and state, in justice to him, that we may have been wrong, yet we have strong testimony to the contrary, which we would give, were it not that it might involve others in the controversy, which we do not feel warranted in doing without their permission, and so conclude that we have all been in error—that the doctor was not there while the Society was in session—yet he must have followed so closely on the heels of the adjournment as to have opportunity to become as familiar with Hullihen's operation as any who heard the reading of Dr. Cone's paper, especially as it was the last subject before the Society, and was in the mouth of every one. He spoke freely on the subject that evening, and on the following morning, and frankly confessed to one or more of the members that Hullihen had priority of discovery.

Thus the misunderstanding between Dr. Miller and ourselves, so far as relates to his presence at the last session of the Society, is now, we trust, settled.

J. R. M'C.

Dentists in New York City.—"When General Washington was in New York, a year or two after the revolution, it is said, he had a set of false teeth inserted by the only dentist in the city. There are now practicing in New York nearly one thousand dentists."

We find the above in one of the newspapers of the day, and give it here for the purpose of correcting the gross error it contains. There are probably as many as *three hundred dentists* now practising in the city of New York, not more. "The only dentist" referred to above, was probably the elder Greenwood, but there were others, cotemporary with him.

Annual Announcements of the Baltimore, Cincinnati, Syracuse, and Philadelphia Colleges of Dental Surgery.—All these schools announce a successful and useful existence, and give abundant proof of their ability to teach dentistry in a thorough and satisfactory manner.

The Philadelphia school, as the youngest, has been successful beyond the most sanguine expectations of its friends, having had, as we learn from the above announcement, thirty-three matriculants to their first course of Lectures. This is a remarkable beginning, and augurs well for the future.

J. R. M'C.

Some additional Facts in relation to Continuous Gums.—We have, in accordance with a promise made in our April number, been put in possession of some items of interest on this subject, by Dr. T. W. Evans, of Paris, who, after the matter had been so extensively discussed and brought before the attention of the whole profession, took some trouble to inform himself as to the origin of it, or by whom, where, and at what period, this kind of work was first made.

After having searched all the dental works which were at all likely to throw any light upon the subject, and made numerous inquiries of the older dentists of Paris, or those who would most probably know of the matter, he was induced to address a note of inquiry to M. Duboy, to which he received the following answer:—

PARIS, July 23, 1853.

HON. CONFRERE:—As it was understood between us, I presented myself to M. Martoret, my predecessor, to ascertain from him if it was known *who was the first to unite teeth to the plate by enamel which also formed a continuous gum*. M. Martoret positively assured me that M. Fonsi was the first dentist who made them in Paris, in the year 1817 or 1818. M. Martoret was employed by M. Fonsi to make this kind of work at that time. As for myself, I can assure you that I have seen this kind of work at M. Martoret's house.

Very truly, yours, M. DUBOY.

To Dr. T. W. EVANS.

A specimen of the work which had been loaned him, comprising some twelve teeth set on platina plate, by the continuous gum, and which had been made as far back as the year above mentioned, were shown us, and were quite strongly made, but there was no gum in front, only along and covering the backs of the teeth and the surface of the gum-plate. We could see that the teeth had not been backed with metal, and consequently their attachment to the plate was dependent solely on the silicious compound investing them, but they were strongly set.

In searching all the French dental works, but little was found in addition to what has already been published from Audibran and Delabarre.

M. Audibran asserts, that he made such work upwards of *thirty years ago*—small specimens of which were shown us.

Thus, it will be seen, that this kind of work was made some thirty-six years ago in Paris, by one dental practitioner at least, and since then by various persons; and it is to be presumed that this manner of setting teeth is known to most of the French dentists, and yet, singu-

lar as it may appear, we are informed that none of it is made at the present day in that country.

These are the facts, as given to us, which we cheerfully publish as a matter not only of curiosity but of interest. J. R. M'C.

Dr. T. W. Evans.—Last August we had the pleasure of repeated interviews with this gentleman, who was on a short visit to his home and friends. At our solicitation, he exhibited to us some tangible evidences of the appreciation placed upon his professional services by the crowned heads and nobility of the European continent, among which we may enumerate a magnificent diamond snuff-box, from the Emperor of France; also, the star and other insignia creating him “Chevalier of the Order Imperial of the Legion of Honor”—a distinction conferred, for the second time only, we believe, upon an American. There was also a superb gold jewel-box, richly set with diamonds, from the Queen of Holland, and many other lesser, but still intrinsically valuable presents, from persons of eminence.

The extent of his receipts for professional services, we are led to believe, is far greater than that of any one operator in our own country; but this is not to be wondered at, when we look at the organization adapted to meet the demands of an almost limitless practice.

The mornings devoted to operations of the most important kind, such as treating and filling diseased and delicate teeth; a portion of the afternoon to consultations, which are much more largely remunerative than filling; the latter part of the afternoon to cases of irregularities, which he has made a somewhat more important matter than is usual among the profession, and to which he has devoted much time and with great success, finding abundant material to work upon; and this also is largely remunerative. Then the evenings, up to twelve or even one o'clock, are given to his secretary or business man, and to inspecting the mechanical work under way—in this department he has employed some very expert workmen. Beside all this, his brother Theodore is constantly employed in filling teeth, in which branch he possesses a proficiency rarely surpassed.

Now, when we take into consideration the large fees paid, and the constant, unremitting labor bestowed by himself and all in his employ, with the acknowledged high qualifications possessed and the reputation enjoyed, it is no matter of wonder how so large a professional business has been made. We may safely conclude, then, that his practice is an enviable one in view of the honors and emoluments attached thereto; and we cannot but feel proud of the success of our countryman. He has done his country and profession good service, and wields more influ-

ence than would be supposed, in elevating American character and American dentistry in Europe.

We attended, by invitation, a “dental party,” (and a pleasant party it was,) given by our confrere, Dr. White, to Dr. Evans—his former pupil—at which “Young America,” in dentistry, was fully represented, as was also medicine and law; and we are sure the subject of our notice will long remember and cherish the sentiments there expressed by those whose opinions are valuable, and whose friendship and sympathy are alike precious.

We wish him continued success, believing that his reputation and usefulness abroad will redound to the advancement and character of the dental profession.

J. R. M'C.

A New Work on Dentistry.—We are informed that Dr. John Tomes, of London, is now engaged in writing a “*Manual on Dental Surgery*,” for Churchill, the London publisher, similar in its object and character to the other Manuals he (Churchill) has published with so much success.

Judging from this author's previous work, (Dental Physiology and Surgery,) we have strong evidence that the forthcoming one will prove a valuable addition to dental literature.

J. R. M'C.

“*The Semi-Annual Dental Expositor.*”—*New York, May, 1853, No. III.*—A revised edition, in numbers, of a Treatise on Mechanical Dentistry, by Solyman Brown, A. M., M. D. This series of publications, when complete, will make an instructive and useful text book for the student. It is well and ably written, teeming with useful information, clearly expressed.

J. Smith, M. D., Edinburgh.—A pamphlet on dental caries, and the preservative influence of the saliva in that disease, from the “*Monthly Journal of Medical Science*,” for March, 1853, has been received. It is an interesting number, and we may refer to it more extensively hereafter.

To Correspondents.—All articles for this journal must be received at least one month before its issue, to insure insertion in the first succeeding number.

Practice for Sale.—We would call attention to this advertisement, which will be found on cover.

Business Notices on third page cover.

THE DENTAL NEWS LETTER.

VOL. VII.

PHILADELPHIA, JANUARY, 1854.

No. 2.

ON THE REGULATION OF TEETH.

BY T. W. EVANS, M. D., D. D. S., OF PARIS.

[Continued from page 33.]

The few other innovations I have made I hope will be more successful; but they have had reference not so much to filling teeth as to regulating them, and it is to this subject that I wish, on the present occasion, to call special attention.

I need not impress upon any person in this audience, gentlemen, that irregularity of the teeth is one of the most fruitful causes of their decay. To prevent this irregularity, or where such precaution has been neglected, to remedy it, is one of the most important branches of Dental Science. I have therefore made it a particular study. Circumstances have favored this course.

Most of the persons who consult me in Paris belong to a class of society whose position renders it indispensable that whatever pertains to personal neatness and elegance should be attended to with the most scrupulous care; and in this respect no subject is of superior importance to that under consideration.

No matter what charms one may possess, whether physical or intellectual, they are all more or less neutralized by defective or irregular teeth, which at once spoil the expression of the finest countenance and destroy the effect of the most refined manners.

In a country like France, especially where the love of the elegant and the beautiful is so intense as to have become almost a worship, so important a fact could not fail to be observed and appreciated; so that now, in the refined classes of society, no one can venture to neglect it.

The "human face divine" plays too important a part in society to be neglected. Personal beauty is too intimately connected with personal grace not to require much at our hands. Nature herself, aiming always at perfection, but thwarted in a thousand ways, supplicates our assistance. She summons our *art* to the rescue. But for our response to this summons, some of her finest works—and what finer work comes from her invisible hands than a symmetrical human countenance?—

would never be completed. It is our aim—and herein is the true glory of our art—to study her original design, and aid in its faithful execution.

What picture is more repulsive to the eye, and alas, what one is more common to behold than a human face, originally a type of beauty, designed as a magnificent *facade* to the “dome of thought and palace of the soul,” robbed of its fair proportions, and falling prematurely to decay? And how often is this sad spectacle owing to inattention to the teeth, those delicate and beautiful organs which seem, until recent times, to have been celebrated by poets only to be “neglected of men.”

The mouth, more, perhaps, than any other feature, gives character to the face. It is the natural organ of the mind. Before the thought ripens upon the tongue, if not before it glistens in the eye, it blossoms upon the lip, which, by nature, is as sensible to the emotions of the soul, as the aspen leaf to the breath of heaven. Now, that the mouth may have its full and free expression—that the organ, so to speak, may be kept in tune, its delicate ivory keys must, of course, be kept well adjusted.

One of the most striking characteristics of man, as distinguishing him from the brute, is the power of rendering his thoughts and emotions, with more or less force, in articulate language. The faculty of speech; of clothing his “thoughts that breathe” in “words that burn,” is one of the noblest gifts with which heaven has endowed him. The development of this faculty is, in all countries, one of the most powerful aids of civilization. It is to this we are indebted for all the charms of oratory, and for some of the most sublime effects of music. What influence is more potent in elevating and refining the mind than the harmonious utterance of sweet sounds?

“He that hath no music in his soul,”

saith Shakspeare,

“Is fit for treason, stratagem and spoils.”

And this “music in the soul” craves always for fit expression through the melodious instrumentality of the *voice*. Hence the education of the voice, in these great days of universal culture, has become a subject of great interest and occupies some of our best minds. Now, for the voice to have its full compass and power, that it may fitly represent the various thoughts and emotions which call for harmonious utterance, it is obvious that the sensitive organ of speech and song, the delicately constructed mouth, be as perfect as possible in all its parts. Above all things it is necessary that there should be a perfect arrangement of the teeth.

Laugh, if you please, and if your dental condition is such that you dare to, but to me an oblique tooth seems often to represent an oblique thought. Indeed, who has not remarked that such a defect will sometimes give even a sinister expression to the most benevolent idea, and rob the gentlest word of its music and its meaning.

There is a story abroad of a man whose mouth was so disfigured by the irregularity of his teeth, and the natural expression of his features was so belied by this deformity, that he regretted he could not prosecute his countenance for defamation of character.

The story is a little extravagant, I admit, but it is not without significance. I, myself, have known most estimable persons whose teeth were so mal-arranged as to give to the face an expression not only brutal, which is a common case, but almost malignant.

The question has even higher bearing. Irregular teeth often occasion irregular temper. The unfortunate creature whose dental apparatus is so badly arranged that he cannot properly digest his food becomes a dyspeptic, (often without knowing the cause,) gets nervous and irritable, ruins his constitution, and makes his friends and everybody about him, uncomfortable if not unhappy. And while in this state of mind, a man of originally good disposition loses not only his temper, but, to a considerable extent, his moral perceptions.

It is thus that the Science of Health is so intimately connected with the Science of Happiness, and that both have more to do than is commonly supposed with the Science of Morals.

I know, indeed, that there are said to be certain diseases which, as it were, rarify the grossness of the flesh, and make a man at once more sensible and more spiritual. But I am inclined to think, after no little observation, that no man was ever made more sensible or spiritual by the toothache; and I fancy that few men will discourse to you (at least from their own experience) of the regenerating influence of *dyspepsia*. I am sceptical also, as to the good moral or mental influence of an infected breath; there is, so to speak, an odor of ugliness about it, which is repulsive to everybody, and which can only be counteracted by an amount of personal goodness which few of us, alas, possess.

"Cleanliness," we are told, "is next to godliness," and if the proverb is true, the importance of a well-ordered mouth is so manifest that its "ivory tessellated courts" should be kept sweet and pure as a temple of worship. There are other considerations, of high moral bearing which might be presented, but I have already extended my remarks on this topic beyond what I had intended. I trust that enough has been said, to show that irregularity of the teeth is a subject of sufficient

importance to engage universal attention. And yet the world—to some extent, even the scientific world—is so much more occupied with effects than causes, with remedies than with preventives; in fine, with panaceas than with principles, that where we have one treatise on the irregularity of the teeth we have a hundred on its evil consequences.

I do not hesitate to say that nine-tenths of those who are in constant consultation with a dentist, would rarely, if ever, have had *personal* occasion for his services, if their teeth had been properly regulated in childhood. Irregular and defective teeth, now the almost universal rule would, if the proper precautions were taken, be the rare exception. Hence the pre-eminent importance of our profession; hence the family dentist is as necessary in every community as the family physician.

The eruption of the teeth of the second dentition is one of the most important stages of physical development; so that the *birth*, so to speak, of these teeth, requires the attention of the family dentist almost as much as the birth of a child requires the attention of the family physician. There is nothing like being *well-born*! Neglect in this respect, (I allude to the birth of the second teeth,) is attended, almost without exception, by serious consequences. But for this neglect, the painful extraction of teeth in mature age; toothache—which has been called the “hell of diseases;”—and the necessity of wearing artificial teeth would be comparatively unknown. Hence, I do not express myself too strongly, when I say that attention to the teeth of children is not only a useful precaution but an imperative duty, and that (it cannot be repeated too often) no profession is more urgently demanded for the welfare of society than that of a family dentist. I have so constantly insisted upon these views in Paris, that my patients are now, for the most part, converted to my doctrine, and a large part of my practice is what may be called family practice. I am, in consequence, compelled to pay unusual attention to the regulation of the teeth, especially of children.

But for a long time I was seriously inconvenienced in my operations, for want of sufficiently complete apparatus. Much of that in general use I found to be often inefficient, and generally very annoying, if not injurious to the patient. I have accordingly spent much time in constructing apparatus suited to my own practice; apparatus uniting all the conditions of promptness and efficiency, and giving the least possible inconvenience to the patient. Ligatures, as generally employed, I found peculiarly open to objection; for, besides their rarely operating with sufficient certainty or steadiness, they often loosened the teeth to which they were attached for support, and almost invariably tended to to lay bare the gums.

As for the other apparatus of bars, springs, caps, plates, inclined planes, &c., while there were portions of it not without merit, and some of it showing great ingenuity, it was, for the most part, so complicated or so cumbrous, that in the few cases where it accomplished the desired end, it did so only by an amount of fatigue and pain to the patient that he often found the remedy worse than the disease. These difficulties I have sought to avoid, and the success I have met with in most of my operations—some of them extremely difficult—has compensated me a thousand fold for my pains. The chief duty which remains to me is to communicate the result of my labors to you, my much esteemed colleagues, and through you to the profession at large.

The principal desiderata in apparatus for the regulation of teeth are :

1st. A firm support which shall not loosen or in any way injure the teeth to which it is attached. 2d. A steady and sufficient pressure, which can be graduated to suit particular cases, and particular stages of an operation. 3d. Great delicacy of construction that the apparatus may be as light as possible, so as neither to injure nor annoy the patient. 4th. Finally, a mechanism as simple as the case will admit of, in order to economise both labor and time.

I am aware, gentlemen, that in all these important respects great progress had been made long anterior to my departure from America. On the other hand, I presume, I am only stating the experience of every member of the profession, when I say not only that the apparatus used at that period was far from being perfect, but that there is much to be desired even now. I infer thus much not only from the nature of the case, and from my own daily observation, but because in reading the valuable Dental journals which come to me from America, I see that more light is called for, and less given, upon this subject than upon almost any other. Doubtless, however, many improvements have been made which have not yet been made public, and I cannot help remarking, in this connexion, that the delay in publishing the valuable discoveries which are made from time to time in our profession, is deeply to be lamented, for the advance of the Science depends to a great extent upon such discoveries being immediately announced. I may add, that it is possible—probable even—that some of the improvements which have occurred to me in the seclusion of my laboratory may also have occurred, in the same manner, to some of you. It is not impossible, either, that among the discoveries made here, the knowledge of which has not yet reached the Old World, there may be some far superior to my own. If so, I shall be glad to have them communicated to me, that I may introduce them into European practice.

CASE. I.—The first case to which I would call your attention, as illustrating the advantages of the apparatus, is that of

Restoring an oblique upper incisor to its place.—The first thing, of course, is to make room for the operation, if, as is generally the case, room is required. This is accomplished by bits of India rubber one-sixteenth of an inch in thickness, which are inserted between the irregular tooth and its neighbor on each side, and is prevented from sliding up to the gum by means of waxed floss silk wound tightly round the middle of the tooth. The necessary space obtained, I take a piece of fine hard-drawn wire, about the size of a common pin, and winding one end of it twice round the middle of the oblique tooth, very closely, I pass the other end along to the bicuspid or molars, to which I attach it by means of a joint—mechanism of two nicely adjusted bands or rings—forming a kind of yoke, which is slipped over two of the bicuspid or molars, and is prevented from slipping up to the gums, by means of wire clamps which hook on to their grinding surfaces. These clamps may be so constructed, when an operation requires it, as to prevent the teeth of the upper and lower jaw from coming in contact with or overlapping each other.

It will be seen at once, that if this apparatus is rightly applied, the hard-drawn wire being elastic, and serving at once as lever and spring, will bring the oblique tooth round to its place in a short time. But in all cases where, from the age of the patient, or for any other cause, the tooth is too refractory to submit to so gentle a lever, I modify the apparatus as follows :

First.—Carefully adjusting a gold band (made of 22 carat gold, so as to be sufficiently malleable) round the centre of the tooth to be operated upon. On the front of this band, and directly across it, I solder a small gold tube, the bore of which is about the size of a common pin ; through this tube, I pass a hard-drawn wire, fitting very closely, and then attach the outer end of it (which has a loop or eye for the purpose) to the yoke or skeleton cap above described, which is previously fitted to two of the molar or bicuspid teeth. In this way it will be seen, we have a more powerful lever than before, and one which is equal to any emergency. The operation being completed the tooth is kept in its place, by means of a small flattened wire, (somewhat smaller than a knitting needle,) which I pass in front of the incisors as far as the eye teeth on each side, to which it is attached by means of silk ligatures ; this wire band is prevented from slipping up by means of a small frame work with two hooks, which I solder to it, and which taking hold of the cutting edge of the central incisors, afford a firm

and steady support. It is obvious that the wire band thus arranged and sustained, will easily keep the restored tooth in its place. The length of time it must be worn depends upon circumstances. It should be removed as often as possible, for the purpose of cleansing.

CASE II.—The next case I would submit to your judgment, is that of the

Protrusion of the front teeth.—I remedy this irregularity by means of a narrow elastic bar of gold, which is attached to the front of the teeth to be operated upon, by means of a kind of wire grating, constructed with hooks which take hold of the cutting edge of the central incisors, and keeps it (the bar) in its place. Having slipped this bar into the grating firmly, I pass the ends along to the two strongest molars on each side, to which it is attached, by means of short spiral springs; the molars used for support having previously had fitted to them the yoke or skeleton cap already described. Now, to give this elastic bar, with its spiral springs, an absolutely firm and steady support, which shall have its pressure equally distributed over the mouth instead of being confined to one or two teeth, I prepare a thin gold plate of the most delicate workmanship, which is moulded carefully to the roof of mouth, and kept in its place by attaching it to the molar teeth by the apparatus which already secures the gold bar. This plate, if nicely moulded to the irregularities of the mouth, has its pressure, as I have said, equally distributed, and renders it impossible that the teeth used for support should be loosened, since they are sustained by the whole palatine arch against which the plate presses. The elastic bar with its spiral springs, has thus the firmest and steadiest hold possible, and can only move the teeth which it is intended to move, and these it brings easily and quickly to their place. The patient easily gets accustomed to the apparatus, because of its great delicacy of construction and finish. I should add that, as the teeth come gradually back to their place, they will naturally force the gum inward. The plate must, therefore, be removed several times during the operation, and be modified, both in size and form; care being taken always to have it nicely adjusted, and to keep it at least one-third of an inch from the backs of the teeth to be operated upon.

The advantages of this apparatus over the use of ligatures, as commonly applied, have already been hinted at in the course of the description. They may be summed up as follows:—1st. By avoiding the risk to which ligatures are usually liable of injuring the teeth, by slipping down to the gums. 2d. By having an absolutely firm and steady support, equally distributed over the mouth, I avoid loosening the teeth used

for support, and then give the patient the least possible annoyance. 3d. By means of the gold plate fitted to the roof of the mouth, I accomplish the important desideratum of acquiring a sufficiently strong support for any power I may wish to exert upon the teeth to be operated upon, without (as I have said) running the risk of displacing any others. 4th. In fact, the power obtained by means of my elastic lever and spiral spring, with their firm, steady support, is much greater than the traction of any apparatus of ligatures, or any apparatus whatever, not thus supported, and is, therefore, easier, more prompt, and surer in its operation. To keep the front teeth in their place, after they have been restored, I first remove the plate, which had been moddled to the roof of the mouth, and then readjust it upon a new cast, attaching it by the same means as before to the molar teeth; then taking a piece of hard elastic gold wire, flattened to about one-sixteenth of an inch in width, and pass it along in front of the teeth which have been operated upon, attaching the ends to the back of the rings which have been previously readjusted to the molar teeth on each side. This elastic band, pressing gently against the teeth, easily accomplishes the purpose.

CASE III.—The next case which I have thought sufficiently interesting to describe, is that when, owing to the narrowness of the jaw,

The front teeth are forced back within the dental ridge.—The necessary space is obtained by inserting pieces of India rubber between the teeth, in the following order:—1st. Between the central incisors, having separated them sufficiently. 2d. Then between the lateral and central incisors, having separated them sufficiently. 3d. Between the lateral incisors and the canines, retaining the India rubber in their places. The next step is to adjust the yoke or skeleton cap already described, to the two strongest molars on each side of the mouth. Next, moulding the gold plate to the roof of the mouth, in the manner mentioned in the last case, commencing pretty well back, and coming forward to within about one-fourth of an inch of the deviating teeth; this plate is attached to the molar teeth by the mechanism just alluded to—the whole forming, in fact, but one apparatus, each part of which is necessary to the other, and to the whole. Having thus secured the strongest and steadiest support, I solder one end of a gold wire (of about the size of a knitting needle) to the face of the innermost ring attached to the molar teeth, and as near as possible to the back edge. The other end of this wire, (the whole being hardened and flattened from the soldering point,) I pass along on the outside and parallel to the margin of the gum, at about one-sixteenth of an inch distance from the teeth, and slide it into a small tube, which had been previously soldered for the purpose, to the

back edge of the skeleton cap, adjusted to the molars on the opposite side of the mouth. This bar is kept from slipping too far through the tube by being tapered at the end, which causes it to enter like a wedge; on the other hand, it is kept from receding from the tube by means of a small nut, or by being flattened at the end. The average width of the bar is about one-sixteenth of an inch. I curve this bar along the margin of the gum, as already described, and then attach each of the deviating teeth to it, by means of circular India rubber bands cut from a pipe or tube; these bands are first slipped over the tooth, then stretched under the bar, to be brought up on the other side and reattached to the tooth, by which means they have a firm, double hold and traction. Nothing need be added to show that these strong, elastic bands thus supported, accomplish the work of bringing forward the teeth in a manner at once simple and easy. In this case, as in the last, I retain the restored teeth in their place, by readjusting the gold plate, having first, however, added to it a kind of supplement extending up to their inner face, and carefully adapted to their posterior and irregular surface. This plate, secured as before, and with the supplemental plate resting against the restored teeth, checks their tendency to grow inwards, and thus maintains them in their proper position.

CASE IV.—The next case is where the same front teeth, instead of all, being within the dental ridge, have grown irregularly—some within and others without, or what is called zig-zag. In this case, I naturally use about the same apparatus as before, with this difference: that the flattened wire or bar, is made smaller and more elastic, and can be lengthened or shortened by means of screw-nuts. The teeth which grow inwards are brought outward by means of India rubber ligatures attached to the band. I preserve these teeth in their places, by striking up a fine, thin gold plate over the backs of the six front teeth, extending down from one-fourth to three-eighths of an inch, and running over the cutting edges about one-sixteenth of an inch. This plate, made of soft ductile gold, should be carefully adapted to the inequality of the teeth, and may be generally kept in its place by the mere effect of suction, or on the principle of atmospheric pressure; but where atmospheric pressure is not sufficient, with the ordinary shape of the plate, I modify it (the plate) by making a small air-chamber in it, which I have generally found to answer the purpose. Another way of keeping the plate in its place is, to let it extend back as far as the first bicuspid, and solder a tube to it on each side, with the mouth opening against these teeth; into these tubes is inserted a piece of hickory wood which swells enough to afford a sufficient support.

CASE V.—The last case I have to mention—though, if there were time, I might mention many others—is very simple, but still is not without importance. It is that of

Bringing forward a lateral incisor.—The skeleton cap, or yoke, is fitted to the two strongest molars; one end of a gold wire, about the size of a knitting needle, is then soldered to the back part of the yoke, and carry the other end forward to the deviating tooth, to which I attach it by means of a silk or India rubber ligature. The elasticity of the wire, which, of course, is hammered hard from the soldering point, is sufficient to bring the tooth back to its place in a short time. The apparatus for keeping this tooth in its place, is also applicable to several other cases, as the intelligent hearer will perceive. It consists simply of a thin gold plate, curved over so as to take hold of the front teeth by their cutting edge, and kept in its place by this hold, and by suction.

I have thus far spoken chiefly of the irregularity of the upper incisors; but one of the commonest cases I have to treat, is that of the

Protrusion of the eye-teeth.—My mode of treatment is, substantially as follows:—If the teeth are so crowded that there is hardly sufficient room for the canine to come down to its place, I bring the incisors forward in the manner already described, and in this way easily obtain the necessary space by an expansion of the dental arch. But if the space wanting is too great to be obtained in this way—in other words, if the bicuspids and incisors touch, or nearly touch each other—I extract one of the former; and then, if the tooth is so high up, that in waiting for it to come down we are likely to lose the space thus obtained, I construct an apparatus for hastening the descent of the tooth and guiding it to its place. This is applied as follows:

1st. I adjust the yoke or skeleton cap, already described, to the molar teeth, which I prevent from being loosened or displaced, by means of the gold plate moulded to the roof of the mouth. I then solder *one end* of a gold wire to the back of the skeleton cap, and having hammered the rest from the soldering point, so as to make it elastic, I curve it inwards towards the eye-tooth, against which the *other end* of the wire presses gently, operating as a spring, and aiding and directing the tooth to its place. If the protrusion be such as to require it, the wire may be crooked where it touches the eye-tooth, so as to bring it both inwards and downwards.

Another interesting case is that of the

Protrusion of one or more of the lower front teeth.—In this instance, if the teeth are too crowded, I extract one of the incisors, and then

bring the others together by means of India rubber rings slipped over the teeth on each side of the space thus obtained. I then form a cap, by bending a piece of flattened gold wire, or plate, over the cutting edge of the irregular tooth, extending down almost to the gum on each side, and thus embracing the whole crown. The ends of this cap where they approach the gum are turned up so as to form small eyelets or hooks. The cap is kept in its place by means of a silk ligature wound tightly round it, which silk is kept from slipping down to the gums by the hooks or eyelets. Having adjusted this simple mechanism, and fitted a skeleton cap to the molars used for support, I run a spiral spring from the irregular tooth to the back of this cap, attaching it at each end by little hooks. The operation of this spiral spring brings the tooth back to its place steadily and promptly. If the spring interferes too much with the tongue, or prevents articulation, I pass a gold wire through it, curved inward to the form of the gum, and soldered, at one end, upon the skeleton cap. The spiral spring thus curved leaves the tongue entirely free, while it operates as perfectly upon the wire as if it were run directly from the tooth to the skeleton cap.

I have thus, gentlemen, given you, as clearly as is possible for me to do in a public lecture, some of the results of my labors in the way of regulating teeth. If I have failed to make myself perfectly clear, I shall be happy to make any explanations which may be required of me. For, in my view, gentlemen, ours is a science far too noble in its character, and involving far too many general interests, to be hampered with any monopolies. A patent for a particular mode of regulating teeth, seems to me as absurd as a patent for a particular mode of setting a bone or curing a fever. There is something almost sacrilegious in the very idea. Everything we discover for the benefit of human-kind, should be known and read of all men. It should be published in the streets, and proclaimed from the house-tops, that thus we may humbly imitate that generous Providence, which sends its rain alike upon the just and the unjust, and scatters its light, broad-cast, over the whole face of the earth.

ON THE NERVE CAVITY.

To the Editors of the "Dental News Letter."

Gentlemen :—In relation to the subject :—"Treatment of such teeth as are already, or have to be, deprived of their internal vitality," I would respectfully submit the following reflections :—

The operation of filling *any* tooth in which there is a reasonable doubt as to ultimate success, is one, independent of its immediate difficulties,

fraught with more matter for anxiety to the faithful operator, than, probably, all our other professional duties combined. In order to approach this operation, much judgment is required, predicated upon both our own experience and that of others. All the requirements of the case; its importance, not only in our own eyes, but in those of our patients, must be fully weighed before we can fairly decide between the attempt at saving such teeth and that of at once sacrificing them.

Although for more than fifty years past, have these operations occasionally been performed with various degrees of success, the subject has not been one to engage, extensively, the thought of scientific men, till a very recent period of our history; and even now, many serious objections present themselves, and must continue to do so, that will have the effect to limit our practice in this truly difficult department.

It is very well known that a large proportion of the cases under consideration, present themselves with the mind of the patient already made up, and pretty well reconciled to their loss. It is not a small matter, and embraces no inconsiderable responsibility on our part to change this impression, and to create a *hope* that, by any possibility may result in disappointment. It will therefore readily be perceived that this objection must always hold good to a greater or less extent, always *liable* to failure, and not unfrequently to unjust imputations on the part of those we honestly desire to benefit. Therefore, as a preliminary to all such extraordinary cases, I hold it as quite important that the patient should attach the true and proper estimate of the value of each and every tooth. That he should be "patient under long suffering," both as regards the tediousness of the operation, and the probable necessity of subsequent treatment. And, that the expense, necessarily attending the performance of our duty, should be of the last consideration. In short, that the mind should *always* be prepared for failure. Honorably secured in this position, we shall not only receive the reward of approbation when success triumphs, but a fair and charitable consideration should our work be lost.

However successful the most favored in our art have been, still have they some failures to record. Without stopping to consider the liability of any oversight as to the thoroughness of the operation performed in these cases, there are other circumstances which should be well looked into, that must not only govern us—first, in operating at all; and, secondly, how far we shall treat the case after filling, if inflammation or alveolar abscess occur, before we shall resort to extracting the tooth.

The first and great consideration, most assuredly, is the importance or probable usefulness of the tooth in question—and here I would say, that the anxiety on the part of the patient, stimulated through fear, or dread of the operation of extraction, can have but little weight in the matter; indeed, the very temperament that will most shrink from this summary treatment, would favor us the least in view of any proper attempt at saving the tooth. In forming a judgment as to the probable chances of ultimate success, the general health of the patient must be well considered:—and should *that* prove sufficiently satisfactory, the liability to continued caries or denudation, from causes peculiar to the patient, should not escape our observation.

Thus, it will be seen, that much cautious observation is required previous to the first touch of an instrument. It will now be our duty to consider what class of teeth, and what *condition of decay* will provide us with the fairest chances of ultimate success, after filling:—In regard to class, it is undoubtedly in favor of those teeth that have the least number of roots; both from this fact, and their natural position being more accessible than molars. It is therefore proper to presume that incisors and cuspidati would possess advantages over bicuspidis; these again over inferior molars, and the last mentioned, over those of the superior jaw, every thing being equal. What I mean by condition of decay, is simply this: whether the tooth be already what we commonly designate as “dead,” or we are compelled to destroy its internal vitality by means of arsenic or otherwise. As far as my own experience goes, the prospect of success is much greater in those cases in which we destroy the nerve, than where nature has performed that operation for us; unless we let too long a period intervene between its filling and the arsenious treatment. In this case, it will readily assume all the characteristics of a self-deceased, or suicidal tooth, if I may be allowed the term. I do not know that the liability to alveolar abscess in such cases can be better explained than the supposition that having quietly thrown off its accumulated acrid humors through the external orifice of decay, whereby its irritating influence upon surrounding healthy organization is relieved—plugging such tooth, and by any possibility of oversight, any portion or decayed substance is suffered to remain, mephitic gas is generated, and its only chance of escape is through the natural foramen at the end of the root—here it is forced into contact with the sensitive surrounding membrane, which it proceeds to inflame and ultimately to destroy. Consequently I deem it of more importance that such teeth should be more thoroughly prepared and

more extensively filled than those recently deprived of their nerves.* In either case, although there is greater liability to abscess in patients of scrofulous diathesis, as much pain is not generally experienced as by those of nervous or plethoric habits.

I have, upon a former occasion, given my views as to the time necessary for arsenious preparations to remain in a tooth—"five hours." It is from very careful observation in this respect, that I mention this period as best calculated to accomplish the desired object. It will be found sufficiently long to paralyze the nerve, and enable us, within twenty-four hours after its application, to introduce a broach and withdraw the nerve or nerves entire; and it does not, in that time, sufficiently decompose animal fibre, either to hazard the risk of leaving any portion behind, or extend its deadly influence beyond what we desire to do.

As an illustration of what a minute quantity of arsenic is capable of doing, I will relate the following extreme case:—Five years since, a lady, about 30 years of age, desired me to extract the six front upper teeth, for the purpose of having them replaced by means of plate work. Upon examining the case, I found that every root was alive and unexceptionable for the purpose of a pivot operation. This I explained to her, and she concluded to adopt this method of practice. Upon reaching each nerve, as I progressed in the operation, I plunged in the broach, and so far destroyed it, as to enable me to drill as deep as was required. I proceeded with my work, adjusting each tooth with a soft wood pin, until they were all prepared for final setting. At this point, it became too late to allow of my completing the operation, and as there appeared to be some little sensation remaining in all the roots, I concluded to put into each a small quantity of the arsenious preparation; directing her to pick it out in five hours, to rinse the mouth well with cold water, and refill the cavities with either wax or clean bits of cloth. She was to have returned to me the following day, but she did not. It was

* About ten years ago it was suggested by Dr. Flagg, of Boston, that, *previous to filling* such teeth as these, an opening should be made into the nerve chamber by means of a small drill, passing it through the gum about an eighth of an inch below the neck of the tooth;—by which a vent is secured, and this new opening protected by means of the gum acting as a valve,—thus allowing the gas to escape and effectually providing against obstructions from foreign substances taken into the mouth. I call attention to this method of treatment in this place for the following reasons:—Firstly, if the operation is carefully performed, it is very generally successful: Secondly, an injustice has been done to Dr. F. in attributing this operation to Dr. Fox and others of ancient date;—when it will readily be perceived that though the *operation* is the same, the *application* is very different:—one is to *cure* the disease, the other is to *anticipate* and thus prevent the disease occurring.

not till ten days had elapsed that my patient presented herself. She said she had not been very well, but that her teeth had been so comfortable, she did not feel any anxiety about them. On seeing bits of rag in the roots, I inquired if she had put in fresh pieces every day, she said, "Oh, no—they have felt so perfectly easy since you fixed them, I have not disturbed them since!" *I had "fixed them."* The first root I touched, left the socket with the simple effort to withdraw the pledget, and so with all the rest. Their surrounding membranes were completely destroyed, and I feared, at the time, that the mischief had extended sufficiently to result in extensive sloughing; but by the free use of astringents this evil was avoided. This, of course, led to the necessity of complying with her previous views, and in due time I furnished her with teeth upon the plate.

Having said thus much in regard to these operations, a few words are necessary touching their treatment subsequently. "There is a point of endurance, beyond which *patience* ceases to be a virtue." This quotation has its embodiment in the question before us; and we should be careful not to risk the future health of a patient, beyond the worth of a tooth, under any circumstances. Idiosyncrasy—present state of general health—real amount of suffering, induced by this disturbed tooth—all must contribute in forming a discreet diagnosis, and then its issue has to depend upon prompt and skilful treatment. It would be very bad practice, (to instance extreme cases,) to allow a tooth to remain in the jaw after it had extended a pernicious influence to the lining membrane of the antrum highmorianum; or, from gravitating pus, suppuration should extend to the external tissues of the lower jaw. It must, therefore, be *proportionably* bad practice to approximate to this condition of things.

I may be excused from going over the whole ground of this "after treatment," by referring my readers at once to writings of my friends Professors J. D. White and Robert Arthur, upon this subject, both of whom have discussed this matter very fully, and sufficiently well to predicate a correct practice. My object has been more to present those surrounding influences to the thought of younger members of the profession, than the cases themselves. Those troubles and annoyances that are always liable to exist, from the great variety of character with which we are in continual contact; and so to shape our course under these circumstances as to secure, not only the greatest good to our patients, but *some* comfort to ourselves.

J. F. B. FLAGG, M. D., D. D. S.

For the Dental News Letter.

DENTISTRY IN FRANCE.

Extracts from a communication from a professional friend abroad.

In France, in sober minded England, as unhappily in America, the interests of our profession have been seriously compromised from its sacred domains having been invaded by hordes of illiterate and unprincipled charlatans. Not a few people, imposed on by such persons, look upon our science as hardly deserving the name; and the proportion of quacks is so great, compared with the number of scientific, conscientious men, that the very name of dentist is with many a name, if not of dishonor, at least of discredit. By many, in fact, the science of dentistry would be described as "the knack of pulling out and putting in teeth," and a man who has acquired a little skill in these operations, and, by dint of lead and brass, can bungle through certain others, passes current as a master of the art. I am inclined to think this is peculiarly so in France. The number of self-celebrated dentists there, is enormous—composing a perfect Legion of *Dis-Honor*. You see their flaming advertisements, bristling with the teeth of their victims—like Indian wigwams hung with the scalps of the enemy—everywhere.

On the broad, beautiful Boulevards, in all the splendid arcades and spacious squares, are displayed showy frames, exhibiting full sets of artificial teeth, opening and shutting as teeth never opened and shut before, from morning to night; and grinning at the green and gullible public with a pertinacity and impudence only too characteristic of their inventors.

Dentists' saloons, showy as shaving saloons, (and in some respects not unlike them,) are rigged on wheels and dragged through the streets by gaily caparisoned horses, while the spirited proprietor sits in state by the side of the driver, and, as the vehicle stops from time to time, harangues the multitude very much after the fashion of our equally enterprising, but I trust more scrupulous, Connecticut pedlars. The harangue finished, the "wooden nutmegs"—I beg pardon,—the patent teeth duly exhibited, and the public, without distinction, being invited to walk in, one of the hired *attaches* of the establishment, with his excruciating face half concealed by a dirty handkerchief, enters the saloon, and in a moment after returns, grinning like a clown, and informing the bystanders that whereas five minutes ago he had the horriddest toothache in the world, he is now entirely cured and is the happiest man alive. Then one of his colleagues enters, and after a few moments of awful silence, makes his exit, swearing that meanwhile his impudent jaws have been circled with thirty-two as fine teeth as ever

cracked a nut. These decoy ducks having "acted well their part," the success of the trick is seen by the fact that crowds of real sufferers now enter the gilded cage, (perhaps I should say the lion's mouth) whence, it is needless to add, they are glad to emerge on any terms.

There are other tricks of the trade, too well known to every one who has visited France, and almost too ridiculous to mention. The latest appears in the form of a book, calling upon every man to pull and plug his own teeth, as if every man who attempted such a thing were not sure to have a fool for a dentist.

For the Dental News Letter.

AUDI ALTEREM PARTEM.

A Review of the Dental Exhibition at the World's Fair at New York, and the recent State Fair in Ohio, held at Dayton, with remarks on the propriety of Dentists exhibiting at Fairs, and the influence such exhibitions exert on the community and the profession.

BY WM. A. PEASE, DENTIST.

When an article is exposed in the shambles, or in the booths of a fair, it is open to the inspection and criticism of the public, and they are invited to examine and pass judgment on its merits or demerits. Especially is this true, when it is exposed in accordance with an invitation from a board of trade or manufactures, to be judged by a committee, pre-supposed to be competent judges, who are to award a premium for particular merit. Unimportant errors in judgment, on the part of the committee, may be allowed to pass without comment, as a succeeding year would correct or dispel them; but, when the article enters into and permeates every class of society, or is of such a nature as to divert science from its highest pursuit, and induce people to patronize incompetent and unscientific men, to their and the public injury, it assumes a more serious aspect and demands a more careful review and exposure at our hands, for, the very act of exposure and entry for the premium, independent of a premium conferred, pre-supposes a confidence in the exhibitor in the merit of the article. Industrial exhibitions doubtless are beneficial to the community, as they afford the means of a more immediate and direct comparison of industrial productions of different localities and manufacturies, and if the competition is spirited, the best article is drawn out. Proper rewards for superior merit beget a wholesome rivalry in mechanics and agriculture and many of the arts, as men naturally respond to stimulants. On this idea, our state and county fairs are established, as well as to afford facilities for exchange and wide diffusion of superior animals, imple-

ments and seeds. At the recent industrial exhibition in New York and the recent State Fair in Ohio, held at Dayton, we were not an indifferent spectator, and propose to present the convictions of our mind as to the merit of the articles exhibited, and awards granted in the dental department. We do this in order to record, so far as the exposition furnished data, the state of perfection of dentistry and its collateral branches, and to show its tone and tendency and the state of dental ethics. We emphatically believe in an interchange of ideas and comparison of different methods of operating as practiced by different individuals—and as our profession is liberal, the practice should be equally high and open. Our opinion as to the method by which this interchange and comparison can be effected will appear in the sequel. What appeared as the dominant idea of dentists in the recent exhibitions, if any one thing could be particularly established by the paucity of exhibitors, was disapprobation of dental exhibitions and contentions for the prize; and we must confess to the particular gratification this afforded us, as it furnished evidence of progress in the right direction, of a gradual assumption of a higher and more commanding attitude and a divorce from those means of notoriety so eagerly sought by quacks. Perhaps no earthly field could have been more ample, or presented greater inducements for exhibition to American dentists, than the fair at New York. Various motives could here operate to induce dentists to display their best productions—the certainty of a large concourse of visitors, not only from the city and surrounding country, but the whole country and world, afforded a peerless opportunity of advertising a la Barnum; while the probability of a varied display would operate to induce dentists of different states to be present, and a patriotic desire to make a good impression on foreigners in favor of American proficiency might have influenced others; but, in the face of all the inducements, the exhibition was meagre in the number of exhibitors and variety of articles exhibited, and destitute of special attraction to the general or professional eye. Messrs. Jones, White & McCurdy, manufacturers, had a good assortment of teeth, which showed well the perfection to which their art has attained, and it is believed they were the only manufacturers there. Dr. John Allen presented various mounted sets, some with single teeth, and others with continuous gums, plumper and all; this work appeared much as heretofore. Perhaps the most noticeable feature in his case was two likenesses; the one *en deshabille*, the other in court dress, or in other words, the one *au naturelle*, the other *au artificielle*; one appeared as a thin faced shrunken and hollow checked gentleman, with nose pinched and so

blue; the other with teeth and plumper in mouth, and more than womanly rotundity, displaying in great perfection the priceless benefit to be derived from this wonderful discovery; tout-ensemble reminding one of the expression of a lady, who, examining a sixpence on which was engraved the Lord's prayer, in a spontaneous burst of admiration exclaimed: "Oh my! what a dear little business this is!" Other cases were also there, displaying the idiosyncracies of the exhibitors and a desire of one of them for circulating cards, whose merits we will leave others to chronicle. At the State Fair at Dayton, Ohio, there were three cases containing teeth or mounted sets; one by S. Wardle & Co., containing plain and gum teeth in sets and mounted specimens, three of which were whole sets of block teeth; they had also some miniature impracticable specimens. The teeth, as a whole, were good, and gave promise that a little more experience would correct some defects and furnish us a good article in the west, while the block work was well mounted, and the best specimens of mounted work on exhibition. Messrs. Taft, Watt & Co., of Xenia, manufactures, exhibited specimens of gum teeth, which were rather clumsily formed and badly colored, yet gave evidence of labor, which will doubtless remedy existing defects and allow them to turn out a merchantable article; they also had crude material. E. Conway was the only dentist that exhibited—his case contained ten pieces, two of which were entire sets of single gum teeth, very prettily mounted, but possessing no marked peculiarity or merit—the others were partial sets that might have been practical. In reviewing the awards of the examining committee, we must confess to a want of comprehension of the reason of the awards. Two cases were entered in class L. as manufactured or ceramic productions, of which Messrs. Wardle & Co. took the first premium and Messrs. Taft & Co., the second. If the medal was given for the best teeth on exhibition, it was justly due to Messrs. Wardle & Co.; and also, the medal for the best mounted or dental specimens, if it was allowable to divide a case, as in the case of Messrs. Taft & Co., for there can be no doubt, that the block teeth were better, more artistic and natural than the single teeth by Conway, while the skill of mounting them must have been at least as great as his. He (Conway) entered in class L. as a dentist, and had the only case of dentistry, and took a silver medal. If the State Board viewed dentistry as a liberal and dignified profession and really had its best interests at heart, and was anxious to offer encouragement for particular merit for which men eminent for science and pathological and nosological acquirements could compete, they took a novel way of manifesting it, by requiring them to display their skill in the shambles,

for the edification, admiration and amazement of garçons, and contest for a silver medal, when a goblet was the reward of the best pumpkin pie, or an adventitious, good quality in a cow, and especially, was it novel, as they had to appear before an unprofessional committee, who were so skilled in dentistry, as to mistake a few crude specimens of spar &c., designed to illustrate the composition of the teeth, for dental chemicals, and bestow on them a premium, when for the manufactured material in the shape of teeth they only recommended a second class premium. What a compliment! Verily, the ways of wisdom are past finding out. If the State Board will persist in offering premiums for dentistry, let us take a rational view of the matter and see, if we can, what practicable advantage will result to the profession and community from such display and contest for premiums, and if we find the great interests of society and our profession are promoted, and salutary results educed, let us join with the Board in their endeavors and offer a suitable and becoming reward.

First, what is the class of dentists that exhibit, and what is the nature of the skill and proficiency exhibited?

Second, The class being established, can educated and scientific dentists consistently enter the lists?

In regard to the first, the records of dental exhibitions at fairs, &c., must be appealed to, as to the class of exhibitors, and the nature of the skill exhibited. Here we are somewhat at sea; the lines of dental demarcation have not always been strictly drawn; education has had sometimes to put shoulder to the wheel or guide the ox in treading out the clay, and as a corollary, exhibit his wares; but, we think we can safely assert, that the dentists as a class, who exhibit, are distinguished for mechanical, rather than medical skill and general education; men who possess a peculiar faculty for mounting teeth and polishing plates, whose quick eye can discover any scratches or microscopical blemishes in the polish, which a dogged perseverance in scrubbing, rubbing and brushing will remove, and at length they produce a set well mounted and unexceptionable in all the requisites of a show piece. This is all well enough as a curiosity: men who are so unfortunate as to be obliged to wear artificial teeth, or legs, want the best that can be made. Polish and regularity are to a certain degree necessary—all roughness should be removed—the teeth adjusted with reference to the least possible accumulation of food, and that polish, which a thorough application of the file and a few minutes stoning and well brushing will produce, is all that is desirable for use. The man who goes further, but proves he has a faculty belonging to Irish girls—that of being a good

scrubber, besides having abundance of time. Such is the class of dentists that usually exhibit, and it is the only exhibitable product of dental skill. You cannot exhibit the thought, the conception of the nature or the origin of disease, or the mental process that diagnosis it, and determines a pain in a tooth is metastatic and originates in an irritated uterus. Medical skill is unexhibitable and unappreciable by the committee—it cannot be measured by a silver medal—precocious youths and ladies with large developments for the marvelous pass it by—it don't shine like brass and seldom receives the plaudits of soft hands and softer heads at fairs. The men who have spent their lives in studying the human system, the laws of life, health and disease ; who have toiled daily and nightly in the loathsome dissecting room, examining every tissue, nerve, artery or bone in its normal or abnormal condition, whether affected by original disease or lesion, or reflected or sympathetic, and noted the effects of different diseases and the diseases of different organs, of accidents and vices, of temperament, age, habits or condition of life ; who have frequented the hospitals and places pregnant with malaria and plague, where death showered his darts thickest, and the very air groaned with the great anguish of the people and was darkened by departing ghosts, have toiled hardest and lingered longest, breathing its double horrors ; who have sought to master all science and all art, have noted the changes of the moon, the seasons, time and tide, of the air in its electrical, thermal, moist and dry conditions ; when black Eurus or stout Boreas blows ; who have analyzed every earth and mineral, every animal or vegetable tissue, every noxious or innoxious plant, and have explored the blackest lagoons and the tallest mountains ; visited different countries and climates, and sought the origin of general and special disease, and assayed to divine the cause, why an Irishman among his bogs, a Dutchman by his canals, the monk in his alpine hospice, or stout John Bull at his ale tub should possess nearly perfect teeth, but, when transplanted into America are edentated like the natives. These men never appear at fairs, they cannot compete with him whose mind has ever been disciplined and directed to attaining the highest polish on a gold plate, and that combination of alloy that will retain the polish and color with the least possible amount of gold compatible with the safety of the patient. They are misunderstood ; their language is not the language of the committee or spectators ; *their* thoughts are not like *their* thoughts—the committee cannot reach them. They view the set of teeth like the glass eye, as a general evidence of want of skill in arresting disease ; to them it would be an approbrium, as their aim is preservation not

substitution. It is true, they make sets of teeth, as they would make a crutch for a lame man ; believing a lesser to be better than a greater evil ; still they would view it as an evil, a dire necessity, a last resort, and an excellent cloak for ignorance though some mitigation of hard fate. Accidents will happen ; disease will progress at times, in spite of us ; people will neglect their teeth, believing art is better than nature, and listen to the syren song of the swedger of dies and plate polisher—"Here is your destiny ! Here is the place for you ! Here you will get your money back." Teeth must and will be inserted, and men will be found just competent to insert them and no more, who will, nevertheless, attempt all classes of operations and extract all teeth, and the State will invite them to her fairs, and publicly give them medals, and slap them on the shoulder and call them clever fellows, and interpose its arm and foster them, and give them the long arm of the lever in advertising though they cheat their committees out of their eye teeth and make them pay double for the costly bauble, the poor substitute, the preternaturally small, white teeth, they insert. We do not intend to run a tilt with artificial teeth ; on the contrary, we employ them in our practice and believe them to be convenient and useful to those melancholy and unfortunate individuals, who have lost their natural organs. It is only this public exhibition, and great prevalence of them, that meets our disapprobation, as we believe this species of dentistry is inferior and entirely subordinate to the others, and the door by which most of the mal-practice and quackery finds so easy ingress to our ranks. In inserting artificial teeth we are placed in a false position—on untenable ground ; we are on the wrong track and liable to accidents—over quick-sand and may sink ; every step we take we are weaving rotten yarn into the texture of our professional garment ; every passage of the shuttle leaves something to be regretted ; click it goes, and a tooth is extracted ; click, and a set of teeth is inserted ; click, and we exhibit at a fair ; here a flaming advertisement appears, there a wonderful improvement is made, continuous gums, "mechanical dentistry perfected," teeth inserted that don't ache. The people read, they believe, they run wild after mechanism—for artificial teeth they sacrifice their own without a thought for the consequences, or a regret ; and grasp a glittering bauble and pass entirely from our control, and mechanics and illiterate artists step in, usurp the place of science and integrity, and glistening, preternaturally white and small artificial teeth are in vogue. Oh, it is wrong ! it is all wrong, it is rotten yarn in our garments—it will rend—it will fail us at our utmost need, and expose our nakedness ! Let us protect our-

selves! Let us cease exhibiting at fairs! Away with mechanical dentistry! If we must insert teeth, insert them under a protest and warn the people of their danger, of the fallacy they seek, the broken reed they rely upon, and raise our voice like John in the wilderness; and cry to every one neglecting their teeth, "repent ye! repent ye!" for the day of retribution is at hand. We do not believe in inserting artificial teeth, or the necessity of loosing the natural ones, but believe it to be a great, crying, fashionable evil—colossal in its proportions, widespread ramifications and firm hold on society; and from our experience and observation are firmly convinced, that had an artificial tooth never been inserted, the loss of the natural organs had been far less than at present, from the very necessity each one would feel of taking better care of them; and that, had the exigencies of the times concentrated the skill of dentists, and directed their efforts solely to the preservation of the teeth, the nature of their diseases had been unfolded, or some panacea provided to arrest the ravages of disease of our mouths. Under these circumstances, *we cannot tolerate the indiscriminate extraction of diseased teeth or the extraction of them at all, unless under the most imperious necessity. We believe they are amenable to treatment and will readily respond to correctives*, and that mechanical dentistry is the incubus that oppresses us, the fetters that bind us down to earth, which will require more than Herculean strength to sunder. Let us make the attempt, and assay to stand free and unfettered, noble in the conscious possession of science and rectitude of purpose, and walk side by side with the other specialities of medicine, co-ordinate co-workers in the great field of disease, par nobile fratrum.

REMARKS.

We have read the above article with much interest, and although dissenting with the author in some of the views advanced, must give him credit, for candor and sincerity as well as earnestness and eloquence, in his objections to dental exhibitions. On this point we may say, that we believe one of the strongest objections that can be urged, is the fact, that persons usually selected as judges may be either incompetent or prejudiced, of which we have a laughable instance in the article above.

As to the utility of exhibiting artificial teeth, we think there can be no question. The manufacturer is but yielding to a pressing necessity. The teeth are demanded and will therefore be made. There is a need of which they are the supply. What possible harm can result to the people or profession from their exhibition? Will the people be thus induced to have their own teeth extracted that they may be replaced

by artificial ones of greater beauty? As well might we say, that the exhibition of a handsome artificial limb would induce persons to have their own removed to give place to a more symmetrical one. No, no, there is too much pain to be undergone in the accomplishment of such an object—it is too improbable, and we much prefer to believe that artificial teeth are only used where sheer necessity compels their use.

The exhibitor of artificial teeth comes before the dental public as a manufacturer, on the same ground and for the same purpose precisely as the builder of an engine, an artist or the manufacturer of goods for general use, comes before the public, for publicity and sale of his products. It is well the profession should know who manufactures the *best* article, that themselves and patients should have the benefit of *quality*. Indeed it is a duty the dentist owes his patrons to supply them with the best substitutes the market affords. It is, we repeat, strictly a business operation so far as the manufacturer is concerned, and any argument in favor of the usefulness of exhibitions in general, applies with equal force to that of the exhibition of artificial teeth.

With the exhibitors of mechanical dentistry, we confess there may be some room for objection, although they have strong arguments to offer in the fact that a benefit is derived by their colleagues from different sections of country, in seeing the different methods adopted to accomplish the end desired. It is, as it were, an exchange of notes—of sentiments, each learning something from the other. Surely many ideas are thus obtained that might not be had in any other way. We have for sometime desired to express our sentiments on the subject of the above paper, and this being a favorable opportunity we have embraced it. We have given our views with great haste, in as few words as possible, and we trust the matter will receive that degree of attention of which we think it is deserving.

J. R. M'C.

For the Dental News Letter.

EXTRACTS FROM A THESIS ON THE RESTORATION OF HEARING BY THE INSERTION OF ARTIFICIAL TEETH.

BY JAS. S. GILLIAMS, M. D., D. D. S.

Eustachian Tube.—The principal object, for the fulfilment of which this tube exists, wherever there is a tympanum, appears to be the maintenance of the equilibrium between the air within the tympanum, and the external air, so as to prevent inordinate tension of the membrane tympani, which would be the case if too great or too little pressure was on either side, and the effect of which would be imperfection

of hearing. It is not the increased or the diminished density of the air, either side of the membrane, which is of the chief importance, but the tension of the membrane which is necessarily produced and which always interferes with the integrity of hearing. It is on this principle that the following cases may be explained :

In the year 1849, I received a message from Mrs. M., through the servant, with a set of teeth that required repairing, with the request that I would have them attended to as soon as possible, as Mrs. M. could not hear when without the teeth. This circumstance first attracted my attention, and when at a subsequent time she came to the office, I made more particular examination and found a great difference in her hearing in regard to what I said to her when her teeth were out, and when her teeth were in her mouth. About a year after, a lady applied for the insertion of an entire set, she had never worn artificial teeth and her hearing was so much impaired that I was obliged to touch her chin and bellow in her ear when it was necessary that the mouth should be opened. When the teeth were inserted and the hand glass presented to her with the request that she should look at them, she suddenly exclaimed, "I hear every thing you say, I can hear you perfectly well." The pleasure of thus recovering the power of hearing was so great, that she declared this acquisition to be in her estimation of a great deal more importance to her than the ordinary advantages of the teeth. The power of hearing continued and she viewed the improvement in speaking, chewing, and the appearance of the mouth of secondary consideration. I have since witnessed the same phenomenon partially produced in several other cases; one lady said she could not "listen without her artificial teeth." In two other cases something of the same kind was produced, but not in so marked a degree. These observations have led me to inquire whether any change could be induced in the orifice of eustachian tube by the excessive approximation of the jaws, such as to close or cover the orifice, or in any way impede the transmission of air through it. If we suppose at the same time, that deafness arose from want of balance between the air within the tympanum and that of the atmosphere, or that external deafness prevailed from causes affecting the membrane tympani, or from obstructions of the external meatus whilst the sensibility of the nerve was preserved, the causes of deafness might be more clearly understood.

NOTE.—I have been trying to make more partial examinations, and obtained several heads for that purpose, but they were either too dry or injected with chloride of zinc.

For the Dental News Letter.

MENDI MISSION.

MESSRS. JONES, WHITE & McCURDY—*Gentlemen*:—Perhaps you may have ere this, forgotten me, in the multitudes who call upon you. I was in at your office a few evenings before I sailed for my far off mission home, December, 1850, to purchase some gold foil, precip. silver, &c. On informing you of my intended labors among the heathen of benighted Africa, you very generously offered to send to me your excellent “Dental News Letter.” I have two objects in addressing you at this time: first, to acknowledge the regular reception of the “Dental News Letter,” and to sincerely thank you for it; for although I only practice dentistry now a little for my associates, and occasionally for the natives, yet I love my old profession, and am pleased to hear of the many improvements which are being made in it from year to year. I have been called, when on business at Freetown, the Capitol of Sierra Leone, to practice some for the English, German and Portuguese, whites settled there as merchants, consuls, ministers, &c., and a few cases for the wealthy native merchants. If there were a few more Europeans settled at Freetown, it would be a good location for a Dental Surgeon, but as it is, it would not give a living.

While in Sierra Leone, from time to time, I have enjoyed an excellent opportunity to notice the teeth of some twenty different tribes from all parts of Africa—North, South, East, West. They all have better teeth than the whites of America, and those most lately from the slave ships, much the best. Their change of habits, when they come to the colony, many of them becoming servants and cooks in the families of Europeans, where they contract the habits of eating highly seasoned food, and drinking hot tea and coffee, soon show themselves on their white teeth. As a more certain evidence that it is hot drinks and savory dishes that so seriously affects their teeth, I need only say, that most of the natives for whom I have operated, are those who have been to England for an education. But I think that, perhaps, their excessive use of tobacco, may be one of the prominent causes of their soon having bad teeth. Most of them, men and women, smoke very much. Some of the tribes have a very curious custom of filing or cutting either the upper or lower, or both incisors to nearly a point, like the natives of the South Sea Islands. They say that they do it to cut “Yanga,” i. e., to make them look more beautiful. I have never seen any people prize their teeth more highly than the Kroom tribe of Southern Africa. There is no mark of esteem so great to a sweet-heart, as the gift of a tooth. In Sierra Leone, it is an incident of frequent occurrence to meet men of

this tribe minus a couple of teeth, i. e., the central superior incisors. A few weeks since, Surgeon St. Clare told me an incident that occurred on board the *John Adams*, which illustrates my point. One of their Kroomen came to him and requested him to extract two beautiful, sound incisors. The Doctor asked for his reason, and was informed by the honest native, that he wanted to send them back to his own country to his sweet-heart.

One other point and I am done. It occurred to me that I might confer a benefit upon all dental or other surgeons, about taking up their abode in a Southern clime, to give you my experience in preserving my instruments from the rust. When I left America, I had my instruments, as usual, in my dental case, lined with velvet. For about one year, I continued to keep them there, but I was very much troubled to keep them in any thing like order; indeed, some of them, in spite of my efforts, were much injured. I then packed them in a common tin box, and from that time I have had but little trouble with them. From my experience, I think that if surgeons would have a tin box or case made to shut closely with a tray, they could preserve their instruments in damp Southern countries. They should not be packed in any kind of cloth, cotton, &c., but in merely a buckskin, and if oiled at all, let it be with a little mercurial ointment.

Respectfully yours to serve,

J. CUTLER TEFFT.

KAW MENDI, WEST AFRICA, July 17th, 1853.

For the Dental News Letter.

PERIOSTITIS

BY D. B. WHIPPLE, M. D.

I have been induced to make a few observations and suggestions upon the treatment of this affection in the acute stage, and although the experience which induces the venture may be too brief to warrant them, I trust the observations incidentally made, will prove the means of eliciting further expression upon the subject.

My experience obliges me to confess that with all the remedial means I have been able to employ, the treatment of periostitis, in the acute stage, even under the most favorable circumstances, apparently, often proves unsuccessful. There seems to be an agent wanting within the pale of the dentist that will enable him to meet the indications of treatment more decidedly and promptly.

Admitting our aid is sought when a case presents in this stage, the

object doubtless is to produce resolution, and I believe to produce this our most effectual means is local depletion, and the leech is the agent prescribed. Now, it is upon this point I wish to express myself particularly.

For illustration, we will suppose a case:—A patient applies for whom, a year previous, we treated the exposed pulp of a central incisor; the utmost care was exercised in every manipulation of the operation, and the case promised entire success, but now he complains of suffering extreme pain in it, and upon examination we find the periosteum inflamed, and in the inflammation in the acute stage, our diagnosis being made, the patient is directed to have leeches applied. Here we certainly lose control of the patient, at least, he passes from our surveillance; we transfer him to another for aid. The inference seems to follow that the dentist does not possess all the remedial agents requisite to meet the demand made upon him, in the treatment of the teeth and their diseases. Surely there is not a dentist who has not wished it in his power to afford that relief, which he is obliged to seek from another in these cases. The indulgence of that desire induced me to experiments. Although my experience has been brief, my success induces me to announce it, trusting that the result of further experience will prove that it was not prematurely made.

Unquestionably the leech is the best means for the local abstraction of blood from the inflamed part about a tooth, but I think an artificial substitute can be employed to subserve the purpose quite as well. Something of suitable shape, upon the principle of the cupping glass,* with adequate exhausting power, would enable the operator to meet a case, as satisfactorily, as with the natural leech. An article termed the dental leech introduced some time ago, is upon this principle, and with this instrument, I have been enabled to treat several cases successfully. Many who have used them complain of their inefficiency, and I think it is attributable, altogether, to insufficient lancing. Slight incisions will not answer the purpose; the flow of blood obtained is slight, and owing to its fibrinous condition, coagulation is readily favored, and the exhausting power of the artificial leech is not sufficient to prevent it, in fact, it only serves to add to the existing irritation of the part.

My plan, and upon which is based all my success in their use, is to lance very deeply and freely, and for the purpose, I use the physicians

* The writer is aware that instruments similar to the one he suggests have been introduced.

spring lancet, setting it to cut entirely through the skin, making in some instances a crucial incision. My preference for a lancet is, that I can make the required incisions more quickly than very little, if any pain is occasioned.

By the removal of a great number of the congested blood-vessels, a large flow is established, and favoring the determination and relaxation, by bathing the part with warm water, I am enabled to obtain as much as we would require by the natural leech. I will admit that it is a troublesome operation, but not more so than many others that present themselves to us, and I think the satisfaction of being able to afford the relief ourselves, and of being spared the necessity of transferring to another that which legitimately belongs to our especiality is sufficient compensation of itself.

It may be asked, are there no other means of meeting such a case? Surely there are; but, I believe it is conceded that local depletion is the most prompt and effective. Inflammation in this locality is the same in its characteristics, as the acute form of pleuritis, pneumonia, &c., and will admit of similar systemic treatment. All the antiphlogistic remedies may be resorted to; the counter irritants and discutients also—but from the confined and circumscribed character of the inflammation in periostitis, local depletion will meet the case more decidedly. After the application of the leech, I direct the part to be bathed with

R. Sulph. Ether,	-	-	-	-	-	-	3 ss
Gum Camph.,	-	-	-	-	-	-	3 ss

By the ether we have the anodyne influence, and refrigerant also, from its volatile properties, and a tonic action is exerted upon the dilated and relaxed vessels. The camphor is added for its discutient properties. (This combination may be used as a prophylactic remedy, when slight vascular excitement is evidenced.)

My purpose by this paper, is chiefly to describe my mode of using the lancet in conjunction with the artificial leech, in the acute stage of periostitis, and the adjunctive treatment I refer to, merely from its incidental connection. To treat of periostitis, in its different stages, would involve a reference to all the established principles of surgery. It is in the acute stage that our services are generally solicited, and if we are not able to meet the demand here, true inflammation ensues, and then a chronic condition is established, which we cannot treat with any positive promise of success.

For the Dental News Letter

PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

At the annual stated meeting of the Pennsylvania Association of Dental Surgeons, held at the Dental College, October 4th, 1853, the following officers were elected for the ensuing year :—*President*, Wm. W. Fouché, D. D. S.; *Vice-President*, C. C. Williams, D. D. S.; *Recording Secretary*, David Roberts; *Treasurer*, F. Reinstein, D. D. S.; *Librarian*, Samuel S. White, D. D. S.; *Examining Committee*, Daniel Neall, D. D. S., Edward Townsend, D. D. S., J. F. B. Flagg, M. D., D. D. S., J. H. M'Quillen, M. D., D. D. S., and C. C. Williams, D. D. S.

The attendance was full, and good feeling and harmony existed in all the transactions of the evening. The increase of members and the usefulness of the Association is a subject of congratulation. In the meetings, all that can possibly interest or improve the profession, is brought forward, ably discussed and many useful facts elicited. The members act together as a band of brothers, at the same time, each striving to outvie the other, in being the most zealous and useful. No jealousies are entertained—but, on the contrary, each member may freely call on the others for consultation or assistance, thereby making the Association a powerful medium for advancing the cause of science and our noble art, and improving the standing and dignity of the profession. It is a common storehouse of knowledge, from which all may freely draw, and not being either exclusive or aristocratic, all those members of the profession, who are worthy of being so called, having the necessary qualifications that a dentist should have, are freely admitted, and warmly welcomed into its ranks, by complying with its Constitution and By-Laws, a copy of which can be had at any time, by either applying to Messrs. Jones, White & M'Curdy, No. 116 Arch Street, or to the Recording Secretary, No. 132 Spruce Street. R.

The stated meeting of the Pennsylvania Association of Surgeon Dentists, was held at the Dental College, on Tuesday, Dec. 6th, 1853.

The minutes of the preceding meetings were read and approved.

The committee appointed to purchase a microscope, reported that they had purchased one for \$115, which was approved and adopted.

The committee to draft a code of Ethics, to be submitted to this Association for its approval, reported progress and were continued.

The committee to test the preparation of sponge gold for the use of the profession, reported progress and were continued, and Drs. Mintzer, Reinstein, McQuillen and Buckingham, were added to the committee.

The committee to examine into the claims that ether and other anesthetics, have on our department of Surgery, reported progress, and were continued.

A committee was appointed to make professional microscopical examinations, consisting of Drs. J. D. White, Flagg, Du Bouchet, Harris and Beale.

The Secretary read a letter, received from Dr. C. N. Hickok, of Bedford, Pa., offering to make a contribution of one or two curiosities to the cabinet of the Association, which was accepted, and the thanks of the Association returned to him for his offer, and the friendly and kind expression of feelings towards its members.

R.

[The following remarks apply with equal force to the profession of dentistry.—ED.]

PROFESSIONAL SUCCESS.

There is a singular difference in medical men in respect to their ability to inspire confidence, which is the first step in obtaining business. Some, with an immensity of learning, have a cold exterior and a forbidding aspect that prevents them from having any hold upon the public regards. They cannot succeed, on account of the ungraciousness of their manners. Others, without any solid acquirements, attain a success that astonishes their superiors, who cannot forbear wondering that such superficial attainments should have a currency among the intelligent. The secret of all this, is, a kind way of saying and doing things. How true it is, that a spoonful of honey will catch more flies than a barrel of vinegar. We have known many excellent, worthy physicians, of unquestionable talents, who dragged through life in poverty and disappointment, without ever convincing the community of their claims. They frightened off those who might have patronized them in the beginning, by refusing to participate in neighborhood courtesies and civilities which are so necessary in becoming one of the people.

A ready tact in detecting quickly the symptoms of a case gives eclat to a physician. Patients are not partial to a tedious examination by percussion, a stethoscope, and a pair of ears all over their bodies at every visit. Many a good and conscientious practitioner has lost some of his best business, by over acting in this matter.

A finished medical education is lost upon many practitioners, who abandon the medical ranks in disgust, out of patience with the world, when the real cause of their poor progress is in themselves. A happy disposition and a corresponding external deportment is a better inheritance than an estate. A sycophantic smile, or an obsequious deference

to mental inferiors, just because they represent a monied influence that may be turned to profitable account, is despicable in all, but especially in a physician. A medical hypocrite soon finds his true level. A fair, open, cordial deportment should characterize a practitioner of medicine. He must be a man among men—entering into their interests, and sympathizing both in their prosperity and adversity.

REGENERATION OF NERVES.

“Dr. Augustus Waller has been engaged in a very interesting series of investigations on the regeneration of nerves. While previous observers were contented with examining the nerve tubes at the point of section, or in the cicatrix, this author has pursued the investigation to the peripheral ends; and has arrived at the interesting and unexpected result, *that the old fibres of a divided nerve never recover their original functions, and that reproduction of a nerve takes place not only in the cicatrix itself, but throughout the terminal ramifications.* The vagus of a dog having been divided, was examined after twelve days, when it was found that the inferior segment was completely disorganized, the fibres being all converted into black or irregular and opaque parcels, and the membranous tubes destroyed. At the end of a month the condition was different: almost all the disorganized substance had been removed: new fibres were found in place of the old, possessing all the characters of young fibres, and being very difficult of recognition, owing to their grey color, intimate adherance, and want of double contour; but on the addition of organic acids—concentrated acetic especially—they were readily recognized as embryonic fibres. The disorganized nerve presents nothing similar, there being only an amorphous tissue, which dissolves readily in acetic acid, without any residue.

The author thinks that the neurilemma plays an important part in the regeneration of nerve fibres; it remains intact during the changes thus described. The results of section applied to the sympathetic fibres show that regeneration takes place in them in a similar manner. The following remarkable results were observed with regard to nerves in connection with ganglia: the roots of a spinal nerve were laid bare, and cut above the ganglion, in such a way as to leave a portion of them in connection with it: the animal was again examined after twelve days, when it was found that the sensitive part of the root attached to the superior part of the ganglion was altogether disorganized, in the same manner as when a nerve is cut in its peripheral portion. The nerve, followed into the ganglion, exhibited its branches disorganized, subdividing in the body, and mixing with fibres altogether normal, and

appearing to terminate in a collection of ganglionic structures equally altered. All the fibres which passed out of the ganglion preserved their normal condition, the state of the fibres being found the same, after a month or more, as at first. The regeneration of the superior fibres between the ganglion and the spinal marrow takes place in the ordinary manner. The motor fibres were completely altered and disorganized to their extremities.—*Medico-Chirurgical Review*.

For the Dental News Letter.

NOTES FROM MY CASE BOOK.

Extraordinary case of periosteal irritation and sensibility of all the teeth during the eruption of the dentes sapientæ, with remarks thereon.

BY J. D. WHITE, M. D., D. D. S.

Miss L. applied to me in 1847, complaining of severe pain in all the teeth of both jaws, but some were much more painful than others. All were sore to the touch, but some were so exquisitely sensitive, and especially the canine teeth, that she was unable to chew the softest substance, or brush or rub them with a cloth, or rinse them with a fluid, above or below the exact temperature of the mouth. So from these causes they became very much discolored. She was about eighteen years of age, small size, light complexion, blue or grayish eyes, and features blunt and short, rather of a sympathetic temperament, apparently of extreme irritability of physical temperament, the gums pale, but rather spongy, and the roots of the teeth not very long. The wisdom teeth were not yet erupted. I had seen some cases similar to this, but not so strongly marked.

She had been treated by several medical gentlemen for *neuralgia*, and deriving no benefit; the roots of the teeth were pronounced *diseased* by them. What they meant by diseased roots was abscesses or fleshy substances growing on their ends, but as the nerves of the teeth were not dead, and no decay in any of her teeth except three or four small cavities in the back teeth, which were well plugged, I knew well that there were no alveolar abscesses. I therefore pronounced it a case of *irritability of the periosteal membranes, consequent upon the development of the wisdom teeth*, which would pass off when they were finally erupted. My view, however, was not concurred in by her medical advisers. They thought they would try their own treatment a little longer, which they did, but without any benefit. They again applied to me to know whether I would be willing that they should consult another dentist, as they did not wish to show any disrespect toward me,

I replied, I would be pleased to have the opinion of an intelligent dentist on the case, and would consider it no mark of disrespect, and give the patient any attention afterwards as cheerfully as I had done on a former occasion. They consulted a gentleman of high standing in the profession, and he pronounced it only an irritability of the teeth and gums, without any connection with the wisdom teeth, and suggested that an astringent wash would cure the case in a few days; it, however, failed to afford any relief. I had proposed to cut away the gum over the tops of the wisdom teeth, or to divide the gums and extract them. The gum was accordingly cut away on one side as an experiment, and in a few days it gave sufficient relief, to enable the patient to use that side of the mouth moderately, which afforded sufficient encouragement to have the same operation performed on the opposite side, and which was attended with like success. The gum grew over some of the teeth and united again in a few months, when the same symptoms returned. This was considered conclusive evidence, that the first diagnosis was correct, and the gums were again cut away, fully as large as the crowns of the teeth, but they closed again as before, and the same symptoms returned, when the gums were divided and two of the teeth extracted. The gums healed kindly, and all the unpleasant symptoms passed off.

The first and second inferior and superior molars were still in the mouth, on the side from which the two wisdom teeth were removed, which accounted for the fact, that the wisdom teeth could not well free themselves from the jaw and gum, whilst on the opposite side the first inferior and first superior molars had been extracted early in life, and the wisdom teeth on this side occupied about the same position as the second molars of the opposite. The jaw was too short to allow of the free eruption of the wisdom teeth without extracting an anterior tooth.

This case illustrates a great many of a similar character, although not so strongly marked.

I am very frequently consulted by young patients, especially young ladies, who are closely engaged in studies at the ages of from fourteen to twenty, with regard to pain in the face or sides of the face, and sometimes located in the teeth, so as to be very troublesome. I know numbers who have left school on account of it, or relaxed the severity of their studies, until the eruption of the wisdom teeth. I have, therefore, lanced the gums of such patients over the location of the wisdom teeth, and sometimes find the teeth imbedded a short distance below the gums, which would have remained there a much longer period if the gums had not been divided or part of it cut out.

It is also a very common thing, to see the gums of the opposite jaws

very much thickened over the wisdom teeth, and very callous, requiring a strong lancet to cut it, and sometimes inflammation of surrounding parts becomes so acute as to produce great suffering, swelling and abscess. They sometimes re-occur periodically, and require the extraction of the teeth. I have attended many cases of abscess of these parts, where neither patient or medical attendant suspected the cause. One case was sent to me of a man who had an abscess every five or six months for several years, and had been treated for it in this country and in Europe, but the cause had not been understood or even suspected before.

There is no calculating in what the first case cited, would have resulted, if it had not been referred to the wisdom teeth, because she suffered more from her teeth daily than she could have by the extraction of them all, and it was given as the opinion of her medical advisers, that they were all diseased, and must be extracted, and which the patient had fully made up her mind to do, when she first called upon me. The case has entirely recovered, and there is no more tenderness about the teeth than in cases of irritability generally.

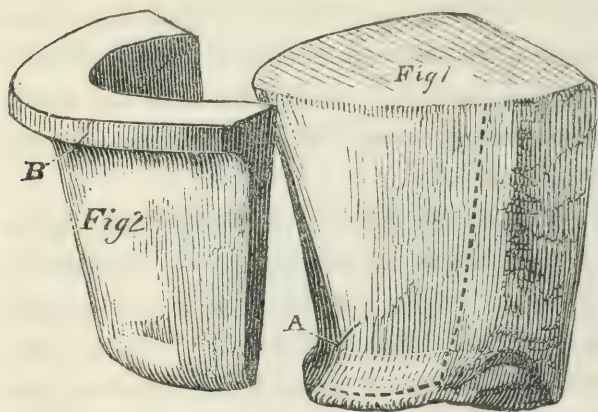
I have often attempted to file and plug teeth for young patients, and found that the periosteal membranes were slightly congested or *hyperemic* and sensitive to the touch and jar of the file, so that I have deferred the operation until the complete eruption of the tooth that had given occasion to it, as it is not wholly confined to the eruption of the wisdom teeth, but more or less to every class of teeth. I have often known patients to have suffered extremely under dentists hands on this account, but taking advantage of the proper period, I would accomplish the operation without much suffering, and get the credit of it, and the patient never know the cause. Selecting the best opportunity or period in the condition of the mouth in such cases as these, I think is not sufficiently attended to by the profession.

I knew a case in which a gentleman was exceedingly annoyed with a patient in a similar condition, and the patient very much pained, and all attributed, in the absence of a better explanation, to affectation and nervousness on the part of the latter. I am in the habit daily of exercising great precaution on this subject. There are other periods in the health of patients, especially females, that prevent the successful treatment of the teeth, on account of irritability of the periosteal membranes and nervous sensibility generally. January, 1851, her teeth are less sensitive, and health good; 1853, health bad and suffers from neuralgic and spinal affections

For the Dental News Letter.

AN IMPROVED PLAN OF MAKING A ZINC CAST.

MESSRS. JONES, WHITE & McCURDY—*Gentlemen*:—Should this be of any interest to you, it is at your disposal.



Amongst all the various modes and methods which the dental profession have adopted to procure a zinc model, I think that the following is one that has not been much used, a description of which I now give you, viz: 1st. To make your plaster model as

usual, and then trim it up as in figure 1; then make the section as seen in figure 2, by putting plaster on the previously trimmed model (figure 1,) until it comes down to the dotted line, as seen on the point of the alveola ridge in figure 1, being careful to leave a shoulder at the top, of about three-fourths of an inch, as seen in figure 2, letter B. After all this is completed, I then proceed to mould in sand, as is usually done: moulding the whole mass, before separating the two parts, then drawing the whole from the sand perpendicularly, you have a perfect impression of your model, except in front, where this section of plaster occupied; then you separate the two carefully without fracturing; then by replacing figure 2 back in the sand, you have a perfect impression of your model, no matter how badly the alveola ridge projects. This method is, however, of no importance, except in these peculiar cases. The flange at the top of figure 2, is of no use, except as a guide, when it is replaced back in the sand, to tell when it is in its proper place, which would be of greater difficulty, was it not there. It is also somewhat necessary that the plaster should be dried a little, so that the hot zinc, when it comes in contact with it, will not bubble so badly by the collection of steam under the zinc, from the wet plaster, as it would do if not previously dried. This can be prevented, in a great measure, by pouring the zinc in small quantities, which is better for the cast.

I think the above described method is superior to the newly invented flask, in a number of respects, viz: That there is no necessity of any other flask, except a common square wooden one, and that it is not always convenient for us to get an iron moulding flask, particularly

those who travel; and another is that it does not require so much care and accuracy in moulding, thereby dispensing with so much extra parting sand, which would oblige you to change the moulding sand much oftener.

Yours respectfully,

B. R. TABER.

Mattapoisett, Mass., December, 1853.

For the Dental News Letter.

IRREGULARITY OF THE TEETH.

BY J. D. WHITE, M. D., D. D. S.

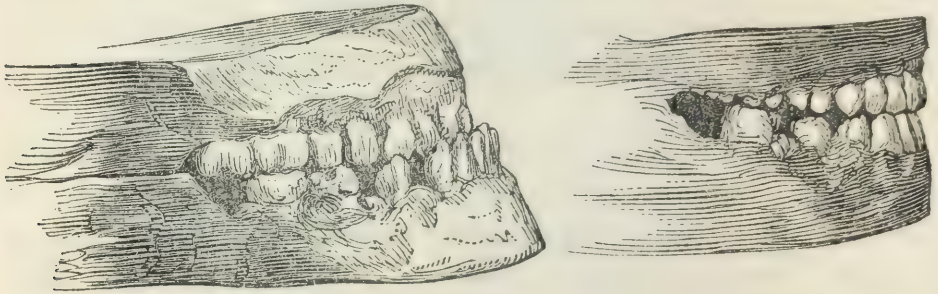
This is a branch of dental surgery which will require more and more the attention of dental practitioners, as refinement and elegance is more appreciated, because it attracts the eye, and appeals to the taste of all, as to whether improvement in personal appearance is effected by it or not, or whether it misrepresents the mental obliquity or sweetness, as the case may be, &c.

Inasmuch as every case, or at least a great many classes of cases require modified treatment, or each one its own peculiar method, no general treatise will be satisfactory to the student in this branch of practice; hence, we will give a single case, at one time, and the treatment which it and similar cases of its class requires, and continue them as time passes and as circumstances favor.

It would be difficult to determine what kind of apparatus or material would be best to be employed in the management of these cases, as everything that we can apply to the mouth has its objections. Gold is hard and difficult to fit to be comfortable to the mouth; silk ligatures soon lose their force; India rubber is too active when first applied, and does not keep up regular action; the inclined plane has its objections also, as will appear during the relation of the case to be described; filling and extracting to regulate teeth is peculiarly objectionable, the filed surfaces can scarcely ever be kept clean, and extracting frequently renders the case worse, as far as the general expression of the whole features is concerned, because irregularity of the teeth could not well occur, without giving rise to narrowness of the jaws, and hence the relative symmetry of the features would be broken up; and to extract a tooth, or a number of teeth, where there was not quite room for them, would be but favoring a still greater contraction. As a general rule, irregularities are brought about by an early loss of the first set of teeth by decay or premature extraction, erroneously to give space, as the progressive classes of the teeth are erupted. It is seldom that there are too many teeth in the mouth, as popular opinion has it. It would be

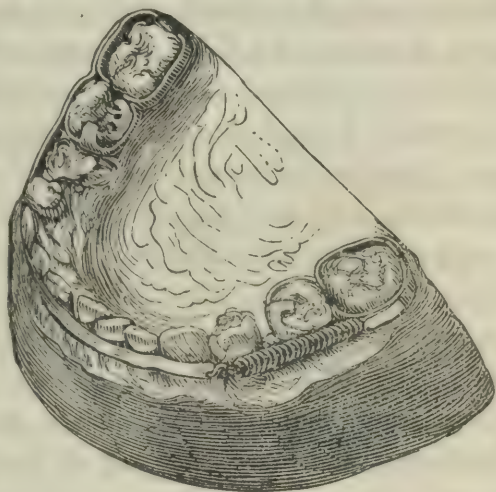
unfair to charge nature with making so many more teeth than finds room in the arches of *modern* mouths, as she has not betrayed any want of uniformity in other organs of the body when favorably circumstanced, or in the relative number and size of the teeth in ancient jaws. However, superficial observation will always be attended with superficial reasons and explanations, still there are some cases of irregularity of the teeth, or mal-articulation of the jaws, which seem to be inseparably connected with the laws of development.

The following case seems to have been one of this order. By referring to the accompanying cuts (profile view) it will be observed that one of them shows the lower jaw projecting forwards, and when closed, grasps the front superior teeth, incisors, canines and the left bicuspid.



These superior teeth fall behind the front inferiors a little more than a quarter of an inch. The superior teeth are all close together, but the inferior teeth, left side bicuspid and molars, are some distance from each other. This favored the case very considerably, inasmuch as there was room to press them backwards. The first procedure in the case, was to swedge a plate to the roof of the mouth, and to run along the margin of the gum as close as possible to the necks of the teeth, to which was soldered a strip of gold plate, immediately behind each of the teeth that fell inside of the lower arch. Now, letting those strips of plate extend about a quarter of an inch below the cutting edges of the superior teeth, and lying close against the posterior parts of them, it will be understood that they would form an inclined plane for the inferior teeth, on attempting to close the jaws to impinge against. This will have a tendency to throw the superior teeth upwards and outwards, and the inferior teeth backwards; this was worn for several weeks, until the front teeth impinged on their cutting edges, when the plate was out of the mouth. At this stage of the treatment it was observed, that the superior teeth moving upwards and outwards, made them shorter, and that inasmuch as all the teeth which did not impinge upon the inclined plane, had approached each other so much as to prevent

the superior teeth from falling below the cutting edges of the inferior, and grasping them, they were, as a matter of course, liable to fall backwards again to their old position. This disposition of the teeth that do not come in contact while operating with the inclined plane, is one of its disadvantages. The next step was to swedge another plate to the roof of the mouth, and fit it against the necks of the superior teeth as perfectly as possible, to prevent them from moving backwards, and at the same time to let the posterior teeth close together, and during the wearing of this plate, to keep all we had gained. Bands were now fastened around the inferior molars, after the manner illustrated by the accompanying cut; with a narrow strip of gold plate, soldered to the band at one side of the mouth, and extended across the front teeth to the opposite side, where it is fastened to the other band also. If we add a half an inch of spiral spring to this band, it will give us more elastic force than would otherwise be obtained; still, it will work very well without



it if it is shortened every day or two. If there is any disposition for the strip of gold in front of these teeth to slip off, throw a ligature around one or more of the teeth, alternately above and below the gold bar, after the manner of a figure of eight bandage, and it will be secure. Small pieces of plate are extended over the crown of the molar teeth, where they will not interfere with the closure of the jaws, to prevent the bands from being pressed too far into the gums. This last described apparatus was worn for several weeks also, when all the inferior teeth were moved sufficiently backwards to pass under the superior teeth, and they (the superior teeth) seemed to grow longer when the inclined pressure was removed, and they are now safely lodged in a natural and desirable position, as a reference to the cuts will show the mouth before and after the operation. The time occupied in active operations, was about four months, which was very rapid, as the age of the patient, (about seventeen years,) was somewhat against the speed of the operation. The patient, however, had sense enough, and exercised care enough with every fixture, to favor its operation, which is a great matter in our favor, as doubtless all who have been engaged with regulating teeth will be able to appreciate.

For the Dental News Letter.

PLUGGING TEETH OVER EXPOSED NERVES.

I was led to the use of arsenic by Dr. Spooner's publication. I have used it ever since—first I used it empirically in every case, but soon learned to discriminate. The rules for its use are but few, and if followed, will be uniformly successful. It should never be used in the teeth of children, as the arsenic is absorbed through the foramen and gives great pain, and affects the general system. It should never be used in teeth when the investing membrane is inflamed. But in the teeth of adults, where the dentine is good and the hole comparatively small, as regards the substance of the tooth, then you may apply the arsenic with certainty of success, for if not too long retained, its action is local. I have followed the different modes recommended, but have finally settled on this mode. I carefully clean the cavity as much as the patient will bear; then having moistened a pledget of cotton, sufficient to half fill the cavity, I dip it in the dry powder of arsenious acid, and introduce it with a plugger, covering it with a little wax warmed in the fingers. I let it remain a day, if not convenient to see the patient sooner, but a few hours is sufficient. I then finish the excavation, and if an incisor tooth, clear to the apex of the fang; I plug to the apex with a gold wire plugger. I use the gold wire in preference to steel, as it is sufficiently stiff, and there is no risk of breaking it in the fang. I do not consider the morphine objectionable, but think it useless combined with arsenic. I reprobate the practice of killing the exposed nerve, if healthy, either by arsenic or cautery. My practice for twenty years has been as follows:

In excavating, when near the pulp, I excavate carefully each side, and turn off the covering if diseased; but in the teeth, as in the soft parts, the surgeon will often find all around gangrenous, but the more vital parts healthy, and covered with sound parts. If so, let them alone, and fill your tooth, but you may, and *often* will find the floor of the cavity diseased; with a sharp edged instrument dexterously turn it off; having carefully cleaned every portion of decay from the cavity, which can generally be done without wounding the nerve, introduce the foil, so as to cover the nerve with a smooth piece; probe down the sides strongly, and if they are well packed, you can go on over the nerve with but little pain, and your plugging will succeed in nine out of ten cases. I have rarely failed. There is another condition to be noted: having uncovered the nerve, you find it in an inflamed state; it protrudes into the cavity: with a sharp excavator, I excise the protruding portion, and apply sulph. morphine on cotton, but this is not

material. I generally pass on to another part of the mouth, and can, in an hour, return to this and plug it securely. It is absolutely necessary to success in this operation, to give the vessels time to contract, and, therefore, the plugging must be delayed until they cease to bleed. Teeth treated in this manner retain their vitality, while those from which the nerve has been removed, are sooner or later thrown off by the system. This mode of operating, I think better than perforating with a drill; it, however, does not preclude that operation if afterwards required.

While on the subject of filling teeth, I would bear testimony to the use of two materials, and only two, to be used. In strong, sound teeth, *gold* is incontestably the best; but there are several classes of decayed teeth, especially those affected with what has been termed white rot, where tin is superior to gold in arresting their decay. In plugging with it in these cases, I am not solicitous to keep it dry, as I believe the oxide of tin possesses the property of arresting the disease—certain it is that in the same mouth, with every care, I have had the disease to progress around gold plugs until they became loose, while the other teeth which I thought valueless, and were filled with tin, were preserved. Frequent observations of this have led me to recommend tin to my patients, and to use it with success in cases where I could not hope to succeed with gold. There is yet another advantage in the use of tin over gold in such teeth. Their parietes are weak, and would not bear the force necessary to consolidate a gold filling, while the utmost consolidation of tin is made with comparatively but little pressure. Tin is valuable as a plugging for deciduous teeth—saves parents many sleepless nights, and retains in children's mouths those teeth until the permanent are ready to come forward. I have seen the amalgam of tin and silver used for this purpose, by men who ought to have known better; and I have seen much suffering and some deformity from its use, causing salivation and the loss of the rudiments of the permanent teeth.

J. LEE, M. D., D. D. S.

WARPING OF PLATES.

The cause of warping of plates can only be from irregular heating and having them enveloped in too great a mass of plaster and sand. If the teeth used by the profession were made of a material capable of standing fire, as well as those made by Jones, White & M'Curdy, they would find but a thin crust of plaster required, and that only necessary to hold the teeth in their place.

My practice is to fit the plate accurately to the mouth. I never

have used air chambers ; the plate should be finished except polishing. I then fit up the teeth on the plate and try them in the mouth, (and in this way only, can the teeth be matched to the countenance. I have often seen work, good work, too, that injured more than it improved the individual wearing it.) I turn down the teeth and plate, surround them with a sheet iron ring, not deeper than the teeth, and not exceeding one-quarter of an inch from their outer surface ; pour on them a thin batter of plaster *without sand*, raise a little so as to cover their cutting edges. As soon as the plaster sets, (and here I prefer not to hasten the matter—plaster sets in a few minutes,) I give it hours when not hurried, and take up another job in the meantime ; it will stand the fire better, not being so apt to crack ; melt off the wax and the work is ready for soldering. If the joinings are good and the solder well arranged, it will flow beautifully on the back of the teeth, and require but little scraping, and the less the better for strength and beauty ; the solder should never be permitted to flow from tooth to tooth. If the heat is brought on slowly and carefully, first outside and *all round*, then directing the flame between the case and coal, then on the inside of the plate and to the joinings, you will never have a warped plate or broken tooth. In soldering I use a pan of wax with a cotton wick, the flame impelled by a branch pipe from my furnace bellows. Ten or fifteen minutes suffice to heat up, and then with the mouth blow-pipe I flow the solder as I please.

My mode of getting up casts, and the quality of plate and solder I use, may be found in Dr. Harris' Dental Dictionary.

J. LEE, M. D., D. D. S.

A Travelling Dentist called at a farm-house in Dedham, Mass., the other day, and asked if any one of the family “wanted a tooth drawn?” “No, sir,” said the farmer ; “there is not one among us who has a single decayed tooth.” The dentist hesitated a moment, and then added, “I am willing to *take potatoes in pay*, sir.” “Lord bless you, my dear man !” cried the farmer, “do you suppose we are going to sit down, and have *sound teeth* drawn out of our heads, for the sake of disposing of a few bushels of potatoes?” The travelling dentist moved on to the next house.—*Tribune*.

Excision of the Lower Jaw.—It is declared that the entire excision of the lower jaw was performed upon a girl 11 years of age, at Oswego, N. Y., in 1849, and the patient is still alive and in good health.

THE DENTAL NEWS LETTER.

JANUARY, 1854.

RISODONTROPY.

This operation, as the drilling of the teeth is now termed, has given rise from time to time to a great deal of contradictory discussion, without either side arriving at any satisfactory conclusions. For our own part, we cannot discover any more favorable features in the *modernized* method of performing the operation than characterized the former. To sustain this position, we will remark that every case of perforating the gum and alveolus which has fallen under our observation, has in a short time after, assumed the same condition as though it had been drilled under the free margin of the gum at first. The sero-purulent matter and blood escaping from the orifice in the tooth excites absorption of the thin process of the border of the alveolus, and dissects the gum loose from the neck of the tooth, and escapes by that means at last, and the perforation of the gum heals as any other wound. Again, as the wound of the pulp by decay is always a direct and local cause of pain in a tooth, we cannot understand how making an additional wound with a drill, can render the tooth less liable to pain and disease. The advantage proposed to be gained by drilling through the gum, of shutting out the air and irritating fluids of the mouth from the pulp, does not seem to be worth considering, since the free margin of the gum covers the orifice in the tooth as securely as the perforated opening in the gum; and besides, an opening which would give free exit, either through the gum or under it, to the accumulating contents of the pulp cavity, would as well give ingress to air and the fluids of the mouth. As long as the pulp is in a normal condition, a large amount of blood circulates through it, but as soon as it is irritated by any cause, the determination of blood to it increases, and must extravasate where the pulp is wounded, or violent congestion, or engorgement of the pulp-vessels and surrounding tissues ensues. Now, it would seem to us, that under such circumstances the nearer the artificial opening is made to the original wound, the better, because the blood and pus which accumulates at the extremity of the pulp cavity, as it is opposite that point that it is most often exposed, must regurgitate upon the pulp until it finds vent through the artificial opening, which regurgitation would soon break up the structure of that substance. This, to us at first view many years ago, induced us to tube the plug, but a

short experience soon proved the fallacy of the attempted preservation of the pulp alive. A pulp never remains in a stationary condition; when wounded, suppuration soon sets in, and absorption and sloughing takes place, or fungus granulations are thrown up, which keeps the cavity constantly full, and sometimes become so abundant as to fill the whole cavity of decay; and thus, as long as it is in the tooth it is subject to change, and needs an external opening. That a tooth will give rise to pain when plugged over the pulp, seems now to be conceded on all sides; and on account, too, of the accumulating fluids in the pulp cavity, this suggests, at once, the operation of drilling an orifice, which shall be less objectionable than the former cavity. It requires no stretch of the imagination to see the propriety of this procedure, as a method of giving temporary relief from suffering; but, if we stop at this point in our efforts to save a valuable organ of mastication and appearance, we deserve less credit for our skill than belongs to us for duties well performed, and that looks into the future for the test of merited reward. This operation, in the majority of cases, is only quieting the patient's anxieties until the destruction of the organ is irretrievably effected.

Again, in perforating below the margin of the gum, a number of membranes, differing very much in character, are wounded: first, the mucous membrane; second, the alveolo-dental membranes; third, the dentine and the internal membrane of the pulp cavity. Now, this makes a very severe wound, so far as the nature of the tissues of the parts are concerned, and to restore it to a reasonable state of health, some claim for the process, that ossification of the pulp takes place outside of the point at which the pulp cavity is perforated, and that the orifice drilled through the tooth also becomes filled up with ossific matter, and in this way the life of the tooth is saved, and the surrounding parts become whole. We see cases of drilled teeth every day, and have as yet seen no traces of such changes having taken place, nor can we at present regard the matter as deserving serious reflection. We very frequently find granules of ossific matter occupying the pulp cavity, enveloped by a thin vascular and sensitive membrane, similar to periosteum, when extirpating the pulp, but never regarded this as resulting from any effort of nature to change the character of the pulp from its sensitive and vascular condition to that of an ossific substance, to ward off the consequences of exposure, to the liability to disease or suffering. We have frequently found such granules on breaking open sound teeth, and in cases where the pulp had become exposed by rapid decay. We recollect sending

a specimen of such ossification in the pulp cavity—but not united to it—some years ago, to Prof. C. A. Harris, of Baltimore, the reception of which he acknowledged in the *American Journal*, at the time. This specimen, as well as many others, was discovered fifteen years ago, while making experiments to *fossilize* the pulp. These anomalies are the results of modified functions in the pulp substance, which we, as yet, have no means of rousing up or controlling. Every effort, therefore, to preserve the pulp alive, or to cause it to assume or take on a modified state of existence to that end, is but experimental. It has been claimed also for this operation, that it is founded on *true surgical principles*. “*Surgery, properly*, is the act of healing by manual operations ; or, that branch of medical science which treats of manual operations for the healing of diseases or injuries of the body,” and “*a solution of continuity*, is any division of parts previously continuous, as a wound or a fracture, &c.” Now, if a tooth’s pulp is wounded by a loss of the bone, by decay or other cause, is it surgery to make another wound of greater extent than the former, involving the same tissue, as well as other important ones ? This is not treating the *wound* first made by manual operation, but making *another*. Now, where is the surgical principle that is to promote the healing of the second wound ? Surgery can only place a wounded part in such a condition as best to favor the operations of nature in her efforts to restore a breach of continuity. If an organ or limb is irrecoverably injured, and we cannot, by directing our manual or surgical operations to the *wound itself*, hope to have it restored, and it is a part that is not of vital importance to the economy, it is our duty to extirpate it entirely, nay, our only remedial means. This is *nature’s* surgery, so far as it applies to cutting organs loose from the body, when she cannot bring sufficient vital force to operate in the restoration of the wounded member. Does not this apply to the exposed or injured dental pulp, in the mass of cases, if not all, sooner or later, whether plugged or drilled or left exposed without a plug ?

This modern method of operating was marshalled before the profession with a strong advance and rear guard, as the ultimatum of scientific treatment of the dental pulp, only lacking for its perfection a more extended experience, and care in its application. With due deference to all who are engaged in its practice, we would assert, that so far as we have been able to observe the results of the method, it is the most pernicious that has yet been devised. There are very few cases in which it will well apply, as a *durable* operation for preserving a tooth, even if it had strong claims in favor of placing a tooth in a comfortable condition. It cannot be applied in deciduous teeth, on account of the

pain it excites in its performance. It cannot be applied with any certainty with reference to impinging upon the most desirable point of the pulp in a molar tooth. Within a few days we have removed a plug from a superior first permanent tooth, after a month's suffering, which at last became intolerable, and found that the buccal nerves were dead, and the palatine living and in a high state of inflammation. This would have required to have been drilled on both sides; and, within two months, a patient applied in great suffering from a first superior bicuspid, which had been drilled by one of its most eminent supporters, and upon removing the plug, it was found that the drill had entered the pulp cavity a little way above the neck of the tooth, and had passed out obliquely upwards and backwards into the alveolus. This tooth had been subject to a much longer period of suffering than is usual when alveolar abscess sets in. An instrument could be passed into the posterior opening under the gum, as well as under the gum and into the orifice on the buccal side of the tooth; notwithstanding this *thorough* drilling, there was an alveolar abscess at the extremity of the root. We do not cite this operation as one to condemn the method, when carefully applied, but to show what may happen in the hands of experienced operators. When all these cavities were well plugged, the irritation of the surrounding parts subsided, as well as the fistulous opening from the alveolar abscess in the gum. There were many teeth in the same mouth that had been plugged over the pulp cavities—some before destroying the pulp, and some after—and they had not given rise to as much suffering altogether, as this single case. It is useless to drill a tooth where there is already an unhealthy condition of the pulp, and this is seldom met with when preparing a tooth for plugging, because patients rarely apply to us until they are compelled to do so from suffering, and if a portion of the pulp has been destroyed or become fungoid, drilling will never restore it to a normal condition, and in such a case it is depending upon the same principle for its success, as cases under the former method of drilling under the free margin of the gum. It is not durable, because when the pulp of a tooth becomes dead, the walls of the pulp cavity commence to soften, and in time the whole crown of the tooth, especially if it be a drilled one, discolours, and decay is the inevitable consequence. The only application that we can see for it is, where the pulps of teeth, with incompletely formed roots, are exposed, if drilling would preserve the pulp in a reasonable condition of health until the growth of the roots was completed, and the plug preserve the crown, we can understand how it could be rendered of great service in some cases, but we do not

know of that as yet having been urged in its favor. It is not a safeguard against alveolar abscess, as nearly, if not quite all the cases we have seen, where the pulps had become dead, alveolar abscess had set in; we see abscess of course, every day, where teeth are as open as drilling could make them.

It seems very strange that such great difference of opinion and experience should exist between respectable practitioners, about the same mode of operating, where each is equally actuated to do the best that theory and practice could suggest for the good of their patients. It is doubtless true, that some practitioners are more easily satisfied than others, with regard to what constitutes success in treating teeth, when the pulps are exposed. The only way that such difference could be settled, would be by the relative success of a given number of operations under similar circumstances. As far as our experience goes, we have yet to see the first patient who would be willing to have the operation of drilling at all repeated, after they have had a pulp destroyed, removed and the root plugged. This opinion is corroborated by a number of my fellow practitioners, who have had considerable experience in the profession, as well as in this operation, after the different modes that have been suggested. The following case has some point in it:

Miss ———, aged 12 years, presented a case of drilling through the gum and alveolus of a lateral incisor, which had given rise to frequent attacks of pain, and at all times felt uncomfortable. There was a small spongy tumor on the gum opposite the drilled orifice, which had assumed a sensitive character, and prevented the use of the brush over that part of the gum, and was subject to slight bleedings. The tooth presented some discoloration and looseness in the socket. We refused to attempt its treatment, until she had seen and consulted her dentist, partly because he might wish to modify the treatment, and partly because we did not think it fair to risk the successful treatment of a case by plugging the root, where so much had been done to render the case difficult. She consulted her dentist, who at once pronounced it a failure, and that the tooth must be extracted. This, however, was not concurred in, when she returned and requested us to do what we pleased to the tooth, but not to extract it. The plug was removed, and a very small opening found to lead to the pulp cavity; the pulp had sloughed away as far down the root as to the drilled orifice; some bleeding was excited on touching the living remnant of the pulp. The tooth was left in this condition for one day, when the remaining portion of the pulp was destroyed, as far down the root as a small probe could be

passed to remove it. A small pledget of cotton was forced under the free margin of the gum and into the drilled opening, as the gum was detached in this direction, and allowed to remain for one day, when it was removed, and another larger introduced and left one day also. When it was removed the orifice could be distinctly seen, and as the gum remained elevated and arched over the orifice as high as the pledget of cotton raised it, this opportunity was taken to fill the orifice firmly with gold, first enlarging the mouth of the opening with a bur-head drill, so that a larger plug could be entered than would push through; in this way the opening could be plugged firmly. The gum was now allowed to fall over the plug, as it did over the orifice. In a few days the root was plugged, and no irritation setting in, the external cavity was plugged in a few days after. This case was treated during January, 1853, and has been seen frequently since that time, and as yet presents no unhealthy appearance of the gum. The spongy tumor soon left, and the tooth regained a normal firmness in the socket; the appearance of the gum is healthy, and the body of the tooth less dark than before it was plugged in the root.

This case is but a type of many others of similar character from the same operator, as well as many other cases from operators of less repute for sound judgment and skill. Cases of drilling in the old way, prevailed like an epidemic twelve or fifteen years ago, but become less frequent from year to year, and we hoped would entirely disappear, until recently, when it seems to have gained increased energy under a new form, and notwithstanding the success attending the originators of the change, it is producing a great amount of suffering in bungling hands.

J. D. W.

DENTAL CHEMISTRY AND METALLURGY.

Chemistry and Metallurgy as applied to the Study and Practice of Dental Surgery: By A. SNOWDEN PIGGOT, M. D., 516 pp.: Lindsay & Blakiston, 1854.

A new work to fill a vacancy in the Dental Library, and meet a pressing want of the profession. In the book the author gives ample proof of the sufficiency of his resources, and exhibits great skill in there employment for the special use intended. For practical purposes it has the character of a manual and operative directory; and for instruction in the scientific relations of his theme, it could scarcely be more judiciously and profitably executed. A very happy hit in authorship, it strikes us, this volume discovers: It is neither encumbered nor deficient in chemical science. It at once guides the operative dentist

in the details of his every day work, and teaches the student the principles directly involved in the philosophy of his profession.

The liberal learning and the practical art of dentistry, are alike provided for, with a perspicuity, compass and exactitude that are worthy of high commendation. In the first book, "the ultimate chemical elements of the human body" are well presented for the general purposes of the work. In the second, we have the chemistry of digestion. These departments, which occupy one hundred and fifty pages of the treatise, are clearly necessary to the dentist who would understand the functional agencies which affect the organs whose diseases he must understand and treat. The general principles of organic chemistry must necessarily form the basis of a successful investigation of any of its specialities, and it is quite impossible to understand the fluids of the mouth and the processes which take place in it without some knowledge of those ulterior stages of digestion with which its functions are directly connected. These introductory divisions of the work are therefore of primary importance in the discussion of the subjects which are the specific aim of the treatise.

The third book is occupied with "the chemistry of the mouth, the teeth, saliva, the morbid changes of saliva, in all their forms, mucus, and salivary calculi."

The fourth book is upon the chemistry and metallurgy of the *metals* and earths used by the dentist. The first chapter is on the different methods of applying heat, furnaces, and auxilliary apparatus, illustrated by a large number of well executed engravings. The remaining ten chapters are upon as many metals, their alloys, compounds and behavior in the processes to which they must be subjected.

The chapters on gold and silver, and especially the tables of the coinage of different nations and dates, showing their weight, fineness and value, are of great importance every way, but particularly in enabling the mechanical dentist to avoid those crystalline, immalleable alloys that prove so troublesome in practice, as well as to ascertain the exact composition of the plate, a matter sometimes of great moment. To all this is added seven or eight chapters on the materials used in making incorruptible teeth, the coloring matter, and the preparation of the materials. The work, it will be seen by this brief synopsis, is a full one, well and methodically arranged. It appears to us to be as well treated as it is planned, and we are satisfied it will contribute handsomely to the commendable effort which the profession is now making to liberalize and elevate its study and practice.

The publishers have got out the book in their best style. E. T.

YELLOW FEVER IN PHILADELPHIA.

From the "*Medical Examiner and Record of Medical Science*," we make the following interesting selection for the information of those dentists at a distance, of the origin and progress of the yellow fever in our city, who do not subscribe to the medical journals. It proves a most important fact for the South and South West to look to—to send their families when epidemics prevail in those regions—that Philadelphia is one of the most healthy cities in the Union, and that although epidemic had actually been imported and commenced its work of death on our borders, still there did not seem to be a sufficient morbid condition of the climate or of the inhabitants of this locality to favor its development outside of the immediate limits of its first introduction. The fever was confined to a limited district, "embracing an area of only about 600 yards in length, and 200 yards in breadth, bounded by Union street on the north, Second street on the west, Almond street on the south, and the Delaware front on the east, a neighborhood but thinly populated," and by no means a salubrious district. The origin of the fever was supposed to have been from the landing of the cargo of the barque Mandarin, or her putrid bilge water, from Cienfuegos, Cuba, all well on the 13th of July last, after a passage of 17 days; six days after, on the 19th of July, the first case of a malignant type showed itself in that vicinity. Up to the 20th of August, there were about 38 cases; 31 of them were fatal, 24 of which were accompanied with black vomit. The cases of fever which occurred after the 20th of August, were few in number, and assumed a mild form, such as mark ordinary autumnal billious fever. The city, during this period was very healthy: comparing the weekly bills of mortality with 1852, the rate of deaths was below that period of the former year. J. D. W.

Obituary.—We regret to announce the death of Dr. J. F. Flagg, of Boston. From his long practice, professional worth, and commanding position, he was well and favorably known to the profession. We hope to give a more extended notice in our next.

The Dental News Letter is published *quarterly*, on the first of the following months, October, January, April and July. This notice seemed necessary, as a number were under the impression that it was a monthly.

J. R. M'C.

A New Spirometer.—Dr. Geo. J. Zeigler, of Philadelphia, has invented a new spirometer on the principle of the gas metre. It is very portable as well as useful.

OUR EXCHANGES.

Our exchanges, both Medical and Dental, come to us teeming with scientific and practical information. Every dentist in the country ought to supply himself with all the dental journals, and at least one popular medical journal. There is much more to be learned from the latter, of the doctrines of his profession, than could be imagined, without their constant perusal—in fact, every subject of medical interest is of more or less interest to the dental practitioner.

We are in receipt of the following :

Am. Jour. Dental Science, quarterly, for October.

Dent. Register of the West, quarterly, for October.

Dental Recorder, monthly, for September.

Southern Journal, Medical and Physical Sciences, bi-monthly, Nov.

London Lancet, monthly, for December.

Boston Medical and Surgical Journal, monthly, for December.

Peninsular Journal of Medicines and Collateral Sciences, monthly, for November.

Medical Chronicle and Montreal Monthly Journal of Medicine and Surgery, December.

British and Foreign Medico-Chirurgical Review, quarterly, for October.

Nelson's American Lancet, monthly, for November.

New Jersey Reporter, monthly, for November.

The People's Medical Gazette, monthly, for November.

Philadelphia Medical and Surgical Journal, monthly, for December.

The Family Dental Journal, monthly, for December.

We would be pleased to add to our list of exchanges such of the Medical Journals as may desire an exchange.

 NEW WORKS.

Just published by Lindsay & Blakiston, Publishers and Booksellers, Philadelphia, *A Text Book of Anatomy and Guide in Dissections, for the use of Students of Medicine and Dental Surgery.* By WASHINGTON R. HANDY, M. D., Professor of Anatomy and Physiology in the Baltimore College of Dental Surgery ; late Professor of Anatomy and Operative Surgery in Washington University, Baltimore, with two hundred and sixty-four illustrations.—This is a splendid octavo of over eight hundred pages, handsomely bound in calf, and is a work which is not only eminently suited to the wants of the dental student, but also

to the medical. In it the medical student will find more on the microscopic anatomy of the teeth, and their physiology, than any other anatomical work extant, whilst the student of dentistry will find as much of the anatomy of the system generally as in any of the text books of anatomy. The distinguished author has gone to a great expense and labor to furnish to the student, as well the medical as the dental, a work which shall at once fill the void heretofore existing in the list of students' text books.

J. D. W.

The Preservation of the Teeth, a Familiar Treatise, by H. NICKOLS WADSWORTH, D. D. S., Washington City, D. C.—This is a duodecimo, forty-two pages, and intended to instruct the public, and give a proper method of cleansing and preserving the teeth. We do not approve of popular works of this kind, still, the author disclaims "any motive but the good of his patients and the elevation of his profession." We commend it, however, "to the kindly examination" of the public and the profession.

J. D. W.

Block Work:—Some hints to those having this kind of work made, may not be amiss, as too much is sometimes expected from the block worker.

The dentist should send to the workman, who may be at a distance, the model, with plate fitted, and wax built upon it, as a guide for outer surface or circle, projection and length the teeth are required to be, with all necessary written instructions as to any peculiarities required, whether with pins to solder, or holes to rivet, whether holes for springs, and if a full or half set, with articulating models to show the close of the mouth, with sample teeth for shade, size, etc., all of which is positively necessary to secure a correct denture, and in saving the expense of making the case over.

But there is apparently an expectation in the minds of some, to judge from their models, that the block maker can run his material and gum over the projection of the alveolar ridge into the depression immediately above the ridge, and yet not have it much thicker than letter paper, as they want that portion of the plate all covered without adding to the fulness.

Now, it is scarcely necessary to say, that such a thing is preposterous. A trial made by themselves would soon settle this point. If, however, such a thing could be done, it would be useless, because of

the extreme delicacy and consequent liability to fracture ; therefore, if the mouth will not allow a considerable addition to the fulness in front, it were useless to have the block maker expend his time in making his blocks run up over the plate, when, in all probability, they could not be so worn.

Let the wax be so shaped as to indicate clearly how much fulness the mouth will allow, (having the above hints in view,) and give the exact position the blocks are required to occupy. J. R. M'C.

We give below a description of the preparation of a superior dentifrice. It is one requiring, as will be seen, much care, time and some little skill to perfect, but we presume any pharmacist could readily prepare it. J. R. M'C.

DENTINE—THE NEW GRANULAR DENTIFRICE.

Some years ago, Dr. J. D. White solicited the preparation of a dentifrice, which should thoroughly fulfill all the ordinary indications without being subject to the chemical and mechanical objections attributed to most or all of the dentifrices then employed. The properties desired were—1st. Sufficient asperity to act mechanically with considerable energy upon the dental incrustations. 2d. Gentle stimulations and constringency in its action upon the membranes of the mouth. 3d. Agreeable taste and aroma. 4th. Final solubility in the fluids and septic acids of the mouth.

A series of carefully conducted experiments was instituted upon every article which might be employed in maintaining the clean and healthy condition of the mouth, and this new dentifrice composed as the result. The basis is *crystalline* carbonate of lime, prepared by precipitating a rather dilute, cold solution of chloride of calcium with carbonate of soda, allowing the precipitate to remain in the supernatant liquid for twenty-four hours, during which it becomes a mass of beautiful, well formed, but very minute crystals. This white, very pure crystalline chalk must be well washed upon muslin filters and dried. The soluble portion of various balsamic astringent, stimulant, and aromatic vegetable products is now incorporated with this crystalline chalk, and the whole repeatedly passed through a proper sieve. The delicate manipulation necessary to produce the desired result, cannot well be accomplished, except in the chemists laboratory.

SAMUEL SIMES,
Operative Chemist, Philadelphia.

DEATHS FROM THE INHALATION OF CHLOROFORM.

In the "London Lancet," for October, we find the report of two cases of death from chloroform, from which we copy the following, which will be found of interest, especially the series of rules to be observed in its administration :

Post-mortem Examination made twenty-four hours after Death, conducted by Mr. Paget.—There was general congestion of the brain, but not very marked, the only veins much congested being those at the posterior part, the blood being in a very liquid state. The puncta were not larger than usual, and the blood, which had been placed in a jar, did not coagulate. The ventricles contained an ordinary amount of fluid, and the pons Varolii presented normal features on a section being made through it. The only peculiarity worth noticing (and the same had been observed in the patient who died from the effects of chloroform some time ago, under the surgical care of Mr. Lloyd,) is that the blood was found liquid in the veins, and remained so after it had been put aside. The kidneys were somewhat congested ; the left one was found scarred from previous disease, when the proper tunic was drawn off, and it was supposed that this might be the result of disease in early life. The peritoneum was thickened on the surface of the liver, and the left kidney was full of fluid blood. The spleen was adherent to the diaphragm from previous general peritonitis. The stomach was full of undigested food, and still the patient had stated that she had had no dinner ; it is supposed that she took bread from her locker, and had potatoes given her by her fellow patients. On the mucous membrane of the stomach some coagulated milk was adherent, but the viscus itself was quite healthy, as was also the pancreas, of which there was a small offset attached to the serous surface of the jejunum. The heart was altogether flabby, but decidedly *not fatty* ; the right ventricle was of the ordinary size, and slightly mottled at the upper part, the muscular tissue being rather of a thin texture, and generally pale. The lining membrane of the ventricle was rather thickened, and the paleness of the heart formed rather a contrast with the florid tint of the voluntary muscles, but the viscus did not present the characters of fatty degeneration.

Now what do we learn by these accidental deaths, and the account of the post-mortem examinations ? 1st, that the fatal effects may ensue in a very short or comparatively long time (three minutes in one case, and ten in the other ;) 2d, that a fatty heart will cause death to occur in a much shorter time than is necessary when this organ is sound ; 3d, that a perfectly healthy heart is no preservative from the fatal

effects of chloroform; 4th, that a previous complete anæsthesia by chloroform is no guarantee that a subsequent one will be harmless; 5th, that even the artificial respiration from mouth to mouth, which has been much extolled, may fail at a certain advanced period of anæsthesia; 6th, that patients may fall victims to chloroform though in an excellent state of general health; 7th, that habitual intemperance seems a counter-indication to the use of chloroform; 8th, and lastly, that accidents of the kind described above will happen with the best and most practiced hands.

The next question is—Whether we can offer any suggestion as to the means of avoiding the sad results which we have just mentioned? On this point we gladly refer our readers to the excellent papers which from time to time have been published on the subject, and shall just extract from M. Bauden's memoir such advice as may be considered of value under the present circumstances:—

1. Never go, intentionally, beyond the limit of cutaneous insensibility.
2. The management of chloroform may be divided into three stages—before, during, and after the inhalations.

3. *Before: Counter-indications.*—Study the patient's constitution; find out whether there exists organic lesions of the heart or lungs; these would be a counter-indication, as are also asthma, aneurism, phthisis, chlorosis, anæmia, chorea, &c., and predisposition to cerebral congestion.

4. The patient's mind should be perfectly calm, and the medical attendant should speak of chloroform as a boon, when carefully administered.

5. The patient should be wishing for anæsthesia, and have full confidence in his medical adviser. If he should feel any apprehension or gloomy forebodings, chloroform should be steadfastly refused.

6. Patients have in all times died from the fear or pain of operations; but the influence of *fear* is now no longer taken into account, and chloroform accused of all the mischief.

7. Chloroform must never be given but for operations of a certain importance, and patients should be fasting.

8. Attention should be paid to the debility which naturally follows serious operations and considerable loss of blood, for the organism thus loses its power of resisting the influence of anæsthetic agents.

9. The operating room should be of good dimensions, easy of ventilation, and every article necessary in case of danger should be at hand.

10. *During the Inhalation.*—Chloroform should be administered in

hospitals by persons specially appointed for the purpose ; and in town by practitioners who make it their exclusive occupation.

11. The quantity of chloroform should be carefully measured, about fifteen minims being taken at once.

12. The length of time during which the patient is inhaling should be counted upon the watch, as also the pulse and the number of respirations. Note should be taken of the force and frequency of the pulsations of the heart ; if the latter fall *below sixty*, the inhalation should be stopped.

13. The patient should be in the recumbent position, the head slightly raised by a pillow ; and should be given doses of fifteen minims, the time between them being made gradually shorter.

14. The handkerchief should be first held at a little distance, and gradually brought nearer the face, the patient being spoken to in a kind and encouraging manner.

15. The latter should be frequently asked, whilst he is being pinched, what is done to him : and when he begins to answer with ill-humor, you pinch him, he is on the point of losing the faculty of sensation.

16. As soon as he answers no more, feeling is abolished ; the handkerchief should be taken away, and the operation begun, for we should never wait until muscular resolution is complete.

17. Excitement, which often marks the first degree, is a mark that the handkerchief should be removed, far from being kept on as is generally practiced.

18. The time has now come to watch the heart and the respiration. On the slightest retardation, and if the symptoms of anæsthesia go on, or are even increased, means should be immediately taken to bring back the insensibility to the first degree.

19. When spasms of the larynx or much cough occur, if foam come to the mouth, if the pulse falls, if breathing becomes embarrassed, if there appears any mark of syncope or cerebral congestion, the inhalations should at once cease.

20. Slight struggling may be resisted, but violent excitement, and the exclamation of "I am choking," should be followed by the immediate removal of the handkerchief.

21. For long operations, the inhalations should be intermitted, and the chloroform may be resumed as soon as the patient begins to sigh or move about. Anæsthesia has in this manner been kept up for one hour.

As to the means to be used in case of threatened death, M. Bauden enumerates most of those which were used in the two cases which we have adduced above.

SPONTANEOUS INFLAMMATION OF ALVEOLO-DENTAL MEMBRANE.

BY CHAPIN A. HARRIS, M. D., D. D. S.

About three years since, Miss T., a maiden lady, 35 years of age, of a scrofulous habit, applied to me to extract a lower molar, which had been the seat of severe pain for some six or eight weeks. Perceiving, on examination, that the crown of the tooth was sound, I recommended the application of a leech to the gum. This did not mitigate the pain in the slightest degree. As the crown of the tooth was free from caries, and the character of the pain did not indicate inflammation of the pulp, I suspected it arose from some constitutional cause, and advised her to consult her medical attendant before submitting to the operation of extraction. She followed my advice, but before the treatment which he instituted had produced any effect, the pain became so intense, she called upon me again, and this time, at her earnest solicitation, I removed the tooth. The roots, on examination, were found to be covered with thin blood, of a dark purple color, which had seemingly been effused through the coats of the small capillary arteries distributed upon the periosteum.

A few weeks after the removal of this tooth, I was requested to extract the corresponding molar on the other side in the same jaw, and under precisely similar circumstances. I again advised the application of a leech, and such other constitutional treatment as the state of her general health might, in the opinion of her medical adviser, seem to indicate. But as she had already suffered severe pain from it for more than two weeks, I could not persuade her to have the operation delayed. The roots of this tooth presented the same appearance as those of the other.

Seven or eight weeks after the last operation, she visited me again. Two other teeth, an upper molar and a lower bicuspid, had become the seat of constant, gnawing pain. Both of these teeth were slightly affected with caries, but the structural alteration had penetrated but a short distance into the dentine, and could have had no agency in the production of the pain, which, as in the two former cases, was evidently the result of periodontitis, and that not caused by any other source of local irritation than the mere presence of the teeth, but dependent upon great preternatural irritability of the periosteum, arising from some peculiar cachectic habit of the body, or state of the general health. Entertaining this view of the case, and not wishing to interfere with the general treatment which seemed evidently to be indicated, I advised her to have leeches applied to the gums of the affected teeth, and to

place herself under the care of her physician, to whom, at her request, I addressed a note, expressing my opinion with regard to the cause of the pain from which she was suffering. As she resided in the country, some twelve or fifteen miles from Baltimore, I had great difficulty in persuading her to return with the aching teeth in her mouth ; but yielding to my solicitations, she finally consented to do so. She returned immediately, sent for her physician, and was at once put under medical treatment, which was perseveringly continued for about seven weeks. During this time, aperients, tonics, (such as quinine and the various preparations of iron,) counter-irritants and narcotics were prescribed ; but the pain continued without any mitigation, and in the meantime extended to two of her other teeth. It had become so agonizing, that she was unable to obtain any sleep at night, except when under the influence of large doses of morphia, and despairing of relief, she again visited the city, firmly resolved to have the four aching teeth removed. Her suffering was now so great, that I no longer refused to perform the operation. The roots of these teeth presented the same appearance as those of the two first.

Miss T. left Baltimore, the day after the operation, comparatively free from pain ; but the sockets remained sore and, at times, slightly painful for several weeks.

About three months after the removal of the last teeth, another began to ache, and in about three weeks, the pain having assumed such a degree of severity as to render its longer endurance almost insupportable, she came to the city and had the tooth extracted. The loss of this procured a few weeks freedom from pain ; but in a short time another was seized, and was ultimately removed. In this way, tooth after tooth was attacked and extracted, until at the expiration of about eighteen or twenty months, all of the molars and bicuspid, except one, of both jaws, were removed.

Believing that the extreme irritability of the alveolar-dental periosteum, which seemed so great, that the mere presence of the teeth acted as irritants, arose, principally, from a scrofulous diathesis of the general system, I suggested the use of iodide of potassium. This was tried, beginning with two drops a-day of Lugol's solution. The dose was gradually increased, until the whole system had become, as it were, completely saturated with it, but with no better effect than the remedies which had been previously prescribed. The inflammation soon extended to the sockets of the remaining teeth, attended by the most agonizing pain, and one after another was removed, until not a single tooth remained in either jaw.

The roots of all the teeth presented the same appearance; and what seemed very remarkable, the inflammation at no time extended to the gums; this structure exhibited no indication of increased vascular action, but retained, throughout the whole progress of the disease, a pale, bluish, rose-colored tinge; their margins were thin and regularly festooned. The pulps of the teeth were also free from inflammation, and the hard structures of the organs were, for the most part, free from caries. Some six or eight were slightly affected, and four had been filled, but in no instance had the disease extended to the pulp cavity.

Up to the time of the development of this most singular affection, the patient had lost but six teeth; the remainder, twenty-six in number, were removed in little more than two years.—*American Journal of Dental Science*.

Upon the Entire Resection of both Superior Maxillary Bones. By M. HEYFELDER, Professor of Clinical Surgery at Erlangen.—Gensoul at Lyons, and Lizars in England, were the first to extirpate (1827) the superior maxillary bone of one side in cases of disease. Since then the operation has been often repeated, and in 1846, Ried (*Die Resectionem der Knochen*) was able to collect thirty-five cases, of which twenty-four were followed by success. If to these be added the cases of Morel-Lavalle, Maisonneuve, Chaissaignac, Robert and Muston, together with those related in the Surgical Cliniques of Munich, Wurzburg, and Erlangen, not yet published, above fifty cases may be easily enumerated. The same remark cannot be made of the resection of both superior maxillæ. M. Velpeau accords the honor to Rogers, "who, in 1824, took away the upper jaw-bone of both sides as far as the pterygoid processes, and who found it scarcely necessary to divide the lip." This description is too brief to be intelligible. Liston removed the entire superior maxillæ of one side, and part of the other. Dupuytren (1818) effected the partial removal of both maxillæ in a man sixty-eight years of age.

Thus, the cases hitherto known are but examples of the partial resection of both maxillary bones.

The complete extirpation of both bones has been performed by Heyfelder twice. The first operation was in the summer of 1844; the second, in January, 1850.

Case 1.—A. Schmidt, aged 25, came to the Clinique, June 13th, 1844, suffering from a tumor of the face, which, from his account, had commenced a year ago, in the posterior part of the palate, and had gradually involved both superior maxillary bones. The nose was

pushed upwards, and flattened; the palatine arch was depressed towards the tongue; the face was affected with cedematous swelling; both respiration and deglutition were impaired, speech was embarrassed, and the sleep broken. The teeth, though loosened, were sound; only two incisors were wanting. The tumor appeared everywhere hard, uneven, and insensible to the touch, and did not pass beyond the boundaries of the superior maxillary bones. The constitution was good; lancinating pains had been felt in the tumor only during the last few weeks.

Dr. Heyfelder concluded that the tumor was of an indolent malignant character, and that the only remedy consisted in the entire removal of both maxillary bones. The operation was performed, June 23, 1844. The patient being seated in a chair, the head resting against the chest of an assistant, two incisions were made from the external angles of the eyes in the labial commissures, and the included parts were reflected upwards to the internal angles of the eyes, and to the ossa nasi. The flap, thus formed, was raised towards the forehead, until the infra-orbital ridge was exposed. Then the chain-saw of Jeffray was passed through the spheno-maxillary fissures, and the molar bones were divided; the maxillæ were next separated from the ossa nasi; the vomer and the thinner bones were cut with strong scissors; after which a chisel, applied with moderate force to the superior part of the tumor, was sufficient to effect its separation. The accessions of syncope prolonged the operation, which, however, did not last longer than three-quarters of an hour. Very little blood was lost; torsion and compression sufficed to arrest the hæmorrhage. Two hours afterwards, the edges of the wounds, from the angles of the eyes to the corners of the mouth, were united by twenty-six points of suture, and cold lotions were applied; there was no reaction nor swelling; the patient could swallow water and broth. Four days after the operation it was remarked, that the wounds had become almost entirely united by first intention. In six weeks the patient was presented at the Physico-Medical Society of Erlangen, and on August 25 he was discharged.

The following was his condition:—There was no deformity of the features: in his mouth there was seen along the median line a fissure thirteen lines long and three lines broad; the extirpated parts had been replaced by the tissue of a cicatrix, firm and solid at the circumference, but somewhat softer near the fissure; the soft palate and uvula were in their natural place; deglutition was free, and the tongue in a better state than formerly; the nose had resumed its usual form and direction;

the face, which, before the operation, was monkey-like, once again possessed a human expression.

The microscopical examination of the tumor showed that it was of cancerous nature. Six months afterwards, the patient, in good health, went to work in the fields; but in the summer of 1845, Dr. Heyfelder was informed that another tumor was forming in the forehead.

Case 2.—Martin Lochner, aged 55, was affected in the upper lip, twelve years ago, with a cancerous growth, which was operated upon three years after its appearance. For two years there was no return; but, subsequently, a small tumor developed itself near the cicatrix, approached the nose, and excited violent pains. Soon a cancerous ulcer formed, which extended over the right half of the upper lip, the ala nasi, and the palate. The patient came into the hospital Jan. 21, 1850, in the following state:—A horrible cancerous ulcer, commencing at the right commissure of the mouth, occupies the greater part of the upper lip, and has destroyed both the right ala and the septum nasi. All the parts were covered with painful, bleeding, fungous growths. The palatine arch was converted into an irregular, knobbed, cancerous mass; most of the teeth were lost; an offensive secretion was constantly flowing, and the patient was thinned and worn out.

The operation was performed January 24. Two incisions were made, exactly as in the preceding case. The chain-saw was used to separate the left os malæ, and Liston's bone forceps to divide the right. The remains of the septum nasi and the vomer were cut with strong scissors. A considerable quantity of the soft parts was likewise taken away. The patient was fed by a syringe. The left coronary artery bled three hours after the operation, but it was easily tied. The case went on well; and, on February 18, when the patient was presented at the Physico-Medical Society, the following was his condition:—The greater part of the wounds were united; but a deficiency existed in the face, corresponding to the disease, at the superior part of which were seen the vertical portion of the ethmoid, and the two ethmo-turbinal bones. In the velum palati there was an opening, two centimeters wide. The destruction of the lip and of the nose produced on the right side a triangular opening, the base of which corresponded to the mouth, and the superior angle to the root of the nose.

He can take liquid food, but his speech is unintelligible; but, when the opening in the palate is closed by the sponge, he can make himself understood. Autoplastic operations were unadvisable, from the exhausted condition of the man.—*Med. Times & Gaz., from Rev. Medico-Chirurgicale de Paris.*

CASE OF CARCINOMA OF THE RIGHT SIDE OF THE UPPER
JAW—REMOVAL—RECOVERY.

BY ALLEN DUKE, ESQ., M. R. C. S., &C., SURGEON TO THE CHICHESTER INFIRMARY.

Sarah H——, aged fifty-six, admitted into the Chichester Infirmary on the 8th of April, laboring under the following symptoms:—About two months since thinks she caught a cold, which was followed by a swelling and pain of a severe character on the left side of the face. There is now a large elastic swelling protruding under the integuments, and pushing the nose to the opposite side, over the upper and anterior part of the superior maxilla, having an indistinct feeling of fluctuation; the gum is considerably thickened, and partaking of the same structural disease; the integuments are perfectly healthy, and more freely over the tumor. There being some little doubt as to whether it contained fluid, it was, after a consultation, thought desirable that it should, previously to subjecting the patient to a severe operation, be punctured with a grooved needle; but as nothing escaped, and the true character of the disease manifested itself, the patient's health being in every respect good, it was determined that the whole jaw of the affected side, including the tumor, should be removed by excision.

Operation.—Having put the patient under the soothing influence of chloroform, and placed a sponge in the back of the mouth, an incision, extending from the angle of the lip to the zygomatic process, anterior to the exit of Steno's duct, was made to the diseased part, the integuments carefully reflected, the external surfaces of the tumor and jaw fully exposed (two or three arteries being secured in order that bleeding from them should not interfere with the future steps of the operation;) a horizontal incision through the soft parts immediately behind the palate bones, leaving the uvula, &c., in their natural positions, was then made, and the attachments of the zygomatic, nasal, and palatine processes divided by the bone nipper. By a slight effort I readily removed the jaw with nearly the whole of the tumor in one mass, the duration of the operation being about half an hour.

The tumor, which appeared to have commenced in the antrum, extended from absorption of its parietes, through the front and tuberosity, weighed, with the jaw attached, three ounces five drachms, and bore a decidedly malignant character. After the operation, the cavity whence the disease was removed would nearly admit the fist of an ordinary sized man. The integuments were carefully adjusted and retained by three or four sutures, and an anodyne administered.

I have no remarks to offer with regard to the after treatment of this case. Suffice it to say, perfect union took place in a few days, no

untoward symptom occurred, the woman recovered most rapidly, and was in the course of a short time able to eat a mutton chop with tolerable ease.

It was really astonishing how wonderfully nature closed the internal parts, for when the patient left the hospital, which was seven weeks after the operation, there was scarcely space sufficient to pass two fingers into the cavity whence the disease had been removed. On being asked a few weeks after her discharge whether she experienced much inconvenience in masticating her food, she replied, "I can eat the hardest crust that ever was baked." Her voice, of course, had the nasal twang, but her articulation was pretty distinct.

EXOSTOSIS.

Some months since, we received from Dr. Perry, of Clinton, Mass., a very remarkable tooth. It was a lower molar. The crown was of the usual form and size, but about the fang was an enlargement resembling somewhat, a collection of salivary calculus, about the size of a hickory nut. On breaking it open, it appeared to be an extra growth of bone of a loose porous nature, radiating from the fang to the circumference. It separated from the fang quite easily, and seemed to be a growth from the investing membrane. It was readily extracted with a forceps, by Dr. Perry, after two unsuccessful attempts to remove it with the turnkey, by a physician.

We have also in our possession, a very remarkable case of genuine exostosis, or hypertrophy of the cementum, extracted by our associate, Dr. Hill. It is a lower incisor. The crown is deformed, and the fang measures three-eighths of an inch in breadth, and about three-sixteenths in thickness, and on one side is an enlargement about the size of a pea.

This was also extracted without any difficulty, though a portion of the enlarged fang had been denuded of its covering during the last year or two before it was extracted. This case was evidently congenital, though the first related above was the result of disease.—*Dental Recorder*.

☞ Communication from England, on the method adopted there to prepare foil for plugging, will be noticed in our next.

☞ No report from Committee on Dentistry, at the World's Fair, New York.

☞ See advertisement of a Dental Practice for sale, on cover.

SPRINGING OF PLATES BEFORE SOLDERING.

This is one of the greatest troubles the mechanical dentist has to contend with, and although much effort has been made to prevent it, and many different plans suggested and described in the dental journals, all admit it, except the few "fortunate souls," as Dr. Taylor calls them, "whose plates never warp, who never have any trouble in any of their operations; their plugs never drop out, they never break a tooth in extracting, and they always make suction plates." A method has been suggested and practiced by Mr. Albert Wilcox, an excellent mechanical dentist in this city, which we do not recollect to have seen in print, and which we are assured is a complete preventive of that form of springing, by far the most common, which results in a contraction of the back part of the plate across the mouth. It consists of nothing more than a strong steel wire slightly curved, so as to pass across the convexity of the plate which is fitted to the roof of the mouth, the ends of the wire resting firmly against each side of the back part of the plate within the groove occupied by the gum. This wire is to be imbedded in plaster and sand when the teeth and plate are covered.

We have not tried this plan, but it certainly looks feasible, as the simplest and most direct way to prevent two ends from contracting or drawing together, is to place a brace directly between them and not to curve it around them, thereby exposing the ends of the brace to the same liability of springing that the plate is exposed to, as has been recommended by most writers upon the subject. The plan is worth testing.—*Dental Recorder*.

ICE AS A LOCAL ANÆSTHETIC.

For some time past, the French surgeons have been using a mixture of pounded ice and salt to produce local anæsthesia. This has been employed especially in that extremely painful operation, the removal of the toe and finger-nails.

The ice is pounded finely, and then mixed with a sufficient quantity of dry salt, enveloped in a cloth, (one of thin oiled silk we should think preferable,) and applied to the part. It should not remain longer than five or six minutes, and the operation should be commenced immediately upon its removal. The application, simple as it is, disarms the operation of all its terrors, the patient witnessing it with the same composure as the by-standers. No ill-effects have been known to follow its employment. Could it not be made to supersede chloroform in some dental operations?—*American Journal of Dental Science*.

THE DENTAL NEWS LETTER.

VOL. VII.

PHILADELPHIA, APRIL, 1854.

No. 3.

VALEDICTORY TO THE GRADUATING CLASS OF THE PHILADELPHIA COLLEGE OF DENTAL SURGERY.

BY ELISHA TOWNSEND, M. D., D. D. S.

GENTLEMEN:—The ceremonial of the evening formally admits you to the honors of the Doctorate in Dentistry. The term of your pupilage is closed; your diplomas certify your right legitimately to practice and teach your profession, and the duties and authority of the Faculty which has conferred your well-earned Degrees terminate with the act which places the pupil in the rank of technical equality with his teacher. In the name of the Faculty and of the Profession, I bid you welcome, and exchange with you the cordial embrace of professional fraternity

Suppressing the expression of those personal regrets that necessarily attend the severance of ties which have bound us together in our collegiate relations, as much because they do not admit of adequate utterance, as because they are compensated by the pleasures of those still higher and worthier, though less intimate connections, which are now established between us, allow me to address you these, our last lingering words, in the altered tone of the new functions and responsibilities which you this evening assume to the profession and to the world.

Of that second, self-education now to commence with you, I have little to say. The instructions already delivered from the several chairs upon which you have attended, must serve both for communicating what we had to teach and directing you in the method of what you still have to learn. Systematic education in Dentistry does not terminate in confessions and apologies for incapability to effect its intention. It does not frustrate its own design by cramming its graduates with a chaos of theories to the suffocation of the intellect. It does not crowd the science of half a dozen professions into the programme of a single novitiate. Nor does it so sever the discipline of practice from the study of principles as to leave the alumni of its schools in the helplessness of utter inexperience at the outset of their independent career. Fortunately for you, the change from the stage of preparatory study to that of responsible practice, under our method, is as nothing com-

pared with the compound profession of Medicine and Surgery, into which the Degree of Doctor of Medicine plunges the untrained disciple of the general healing art. Having finished our professional prelections and ascertained your proficiency by tests that are not mere abstractions, and cannot be illusory, we can, in the strictest justice of application, say to you, when we send you out to the warfare of life, "Walk by the same rule, and mind the same thing whereto you have already attained."

Our specialty in the healing art has such balance, adjustment and relation among its elements, and so happily illustrates and verifies its theory in its practice throughout the whole period of study, that we are not obliged to adopt the fashionable valedictory warning which announces to the terrified graduates that "they are now only indoctrinated in the facts and principles of their study, and cannot be said to have fairly commenced to learn their profession, until they have entered its practice." You, gentlemen, in your public study, as well as under your private preceptors, have been trained and instructed to a fair, practical proficiency in every department of the calling which your diplomas declare you competent to undertake. We need, therefore, at the moment of parting say to you nothing but go forward in the work of self-development. Whether in the conduct of your continued studies, or in the fulfilment of the varied duties before you, we have but one word to utter—persevere. As we have hitherto conducted you, so we for the future direct you. We know nothing before you that need surprise you. We know of nothing lying in wait for you that is not fully provided for in the teachings already imparted. We take leave to say, that we have not turned you out of our hands Doctors of Parchment—Dentists in expectancy, or peradventure, but we pronounce you Dentists now—worthy of the title, and ready for use. I do not say that the growth of manhood and old age does not lie out in long-drawn perspective before you, but I say that you have reached your professional majority in the qualifications of your art; in a word, that you are not so many collegiate grubs, waiting for your wings till they are grown by the tedious and painful metamorphosis of future experience. Your system of study, both in method and appliances, is an actual matter of fact anticipation of future practice; and, if any of you have the slough of the chrysalis yet to cast, it is either because you, or we, or both, have been delinquent in our duty; it is not an intrinsic fault in the policy of dental education. The method of study, the direction of principles, and the drill of practice, you will bear us witness, have run current with, and been incorporated in, all our teach-

ings, in such inter-dependency that you are well assured to-day of the pathway that will lead you onward toward the attainment of your future aims, and guide you safely to their eventual achievement. Nothing less than this would answer the promise and the trust implied in the contract entered into between us. You carry with you from these halls the certificate of the Faculty that you have well and honorably performed your part of the engagement, and, we trust you very confidently, to demonstrate to the world the fulfilment of the pledge upon our part. Yesterday, gentlemen, you were our pupils, but to day you take rank and fellowship with us in our common profession ; and, laying aside the claims, with the duties and relations of preceptor and pupil, let us turn together for a moment to the consideration of some of those interests and responsibilities which have now become our mutual and equal concern as members of the profession.

Dentistry is usually spoken of as a branch of the great healing art, but, in point of fact, it has grown, not out of the stem, but up from the root of the tree of remedial science, and as it has not sprung from, so it does not depend upon the older trunk, but stands beside it, deriving its separate nutrition from the same soil indeed, yet by the independent energies of its own vitality. Hitherto, in fact, it has been indebted rather for shadow than sunshine to the elder-born growth. A thrifty sapling it has proved, with roots and branches of its own ; distinct in its vital economy, though kindred in origin ; distinct, also, in its fortunes, and necessarily so in the conditions and policy of its culture. Moreover, it has already so far matured, that it is full time for it to be set out by itself for larger room to grow and ripen its proper fruits.

Doctor of Dental Surgery is a comparatively new patent of nobility in the heraldry of science, and necessarily institutes the relations and duties of a new order in the diplomatic ranks. To this service we have pledged a generous devotion. We have enlisted in the regular army of advance, and the consciousness that its fortunes must be vitally affected by our conduct in the field, cannot fail to fire the zeal, and steady the fidelity due to the cause.

What does it ask at our hands ; and how shall we best answer its great demands ?

Very rapidly and successfully, yet still very recently, the profession has advanced from the sheer chaos of empiricism to the form and order of a regularly systematic art ; so founded upon principles, and so justified by experience, as entitles it to the character of an integral science. It has also richly provided itself with the apparatus and method of future growth and progressive achievement. Already we

are in possession of elementary treatises in every department of the study; we have an able periodical literature, and colleges for thorough and comprehensive education are springing up with a rapidity and a capability almost equal to the demands of the times. We have so well advanced in the transition stage of our progress, if not quite passed it, that the elements of a permanent order are rapidly arraying themselves into the most efficient forms.

Our duties are determined by these favorable conditions, and our obligations proportionately enhanced by the resulting facility of their performance. The duties before us, it seems to me, may be best understood by dividing them into two concurrent, but distinct branches. The first and most direct is the improvement of the profession by all the aid which it is in our power to contribute; and the second, the equal obligation which lies upon us to repress and eradicate the remaining irregularity and unworthiness that still attaches to the fraternity.

The duties under the first division, which I have placed first, because they lie nearest home, and are first in rank and importance to the objects aimed at, fall for the most part within the regular range of that self-culture and self-improvement, which concern our individual interests most narrowly considered.

Whatever we can do to render our art most helpful to our patients will best serve to enhance the character of the profession, and to raise the standard of its public estimation. In the proportion that we illustrate its dignity and demonstrate its utility in our own practice and conduct, we will have advanced the requirements that the public will make upon all who, in our own neighborhood, make claims to proficiency in our science. To the extent that we shall be able to indicate a clear superiority, we will have established a reforming criticism over the pretensions, and a corrective influence over the practice, of inferior men. The legitimate, the best mode of exposing the darkness around you is, by the brightness of the light you shed into it, and the happy advantage of this method is, that while it exposes, it also dispels it. But beside this, and a little beyond it, there is the duty we owe to the profession at large, of contributing, by word and deed, by care and service, to the efficiency and success of all the means that are unavailable, especially all those that are already provided, for the liberal education of the men who are hereafter to fill our places. The responsibilities resting upon you in this behalf embrace several very important particulars. I can only glance at them now, and commend them to the fuller consideration which they deserve from you. The private education of pupils in dentistry is a high and responsible trust

necessarily incident to the doctorate of the profession. Upon every capable practitioner in the country, this duty rests with imposing force; but you, by all your commitments, are especially pledged to its worthiest performance. Collegiate faculties are not the only, nor even the most important agents in this function. Doctor of Dentistry literally means teacher of the art, and you use, in your private capacities, the primary, and by no means the least important functionaries of the educational faculty.

You are aware that the college whose honors you have won, insists upon an adequate private preceptorship as a condition of graduation. Its importance to the individual you understand too well to need any enforcement from me; but I cannot let this opportunity pass without pressing upon you the expectation that you will, in this matter, fully second and zealously forward the general effort to elevate the standard of regular study, and generously devote yourselves to the discharge of your own share of this honorable service. In your own judgment, there is no question of the indispensable necessity of a thorough preliminary study in the principles of the profession. There results from this conviction, therefore, the corresponding duty of indoctrinating all those within your influence, who propose to enter the profession with the soundest views of its requirements, and of providing for your own pupils all the facilities, and devoting to them all the care, that are necessary to the fullest acquirements.

Your offices and work-rooms, your libraries of elementary books, and your supply of our periodical publications should be provided with liberal completeness, and your personal instructions must be most fully and conscientiously afforded.

The applicant depends upon your judgment for the knowledge of his proper qualifications. Be faithful to him and to the profession in this. See that he has the mind, and the general education that qualifies him for the study. See that habits of study, as well as application to practical operations, are justly regarded. Let the idea that the profession is a learned and a liberal one rule the conduct of the pupil, and your conduct toward him. Keep steadily before him the connection of all the departments of physical and remedial science which our own involves and depends upon, for its completeness and for its further progress.

Allow me to say to you in the most emphatic manner, that we look to you for the best services which you can render to the cause of preparatory education, with a solicitude and a confidence second to none that we have in any of the agencies in existence for the reformation and

development of our noble profession; and, we charge you, by every consideration of duty, honor, and ambition, that you fail us not in this grand hope of our enterprise.

The preceptor engaged in the onerous duties of his practice is under great temptations of convenience and of interest to slight his duty to his pupils; nay, it is only at considerable sacrifice that he can fully perform it. But this, for its importance to the common interests of the Faculty and of the community, is exactly the service that is exacted from him. Perform it in the spirit of your calling; perform it in the fulfilment of your public pledge, effectually, religiously, and your reward will be the consciousness that you have well deserved the rank you have assumed in a liberal fraternity; neglect it, and the reproach of delinquency to the highest trust will outweigh all the pleasure and pride of the largest selfish successes.

The standard and periodical publications, devoted to our art, have unquestionable claims upon your support. Every dentist, worthy of the name, should consider himself an agent for their circulation, and a contributor, by implied contract, to their stores of information. Every liberal profession, as much as that of religion, has, besides its sanctity to be guarded, its interests and usefulness to be promoted. The lawyer, the physician, the naturalist, the dentist, is a sort of priest of his order, and owes to it the required fidelity, sacrifice and service. The philosophers of Greece exacted a sacramental vow from the disciples whom they initiated into the mysteries of their Schools. Hippocrates administered an oath to the adepts of the healing art. I will read it to you, both for the curiosity and the instructive suggestions it contains:

“I swear by Apollo, the Physician, by Æsculapius, by Hygiea, by Panacea, and all the gods and goddesses, calling them to witness, that I will fulfil religiously, according to the best of my power and judgment, the solemn promise, and the written bond which I now do make: I will honor as my parents the master who has taught me this art, and endeavor to minister to all his necessities: I will consider his children as my brothers, and will teach them my profession, should they express a desire to follow it, without remuneration or written bond. I will admit to my lessons, my discourses, and all my other methods of teaching, my own sons, and those of my tutors, and those who have been inscribed as pupils and have taken the medical oath, and *no one* else. I will prescribe such a course of medicine as may be best suited to the constitution of my patients, according to the best of my power and judgment, seeking to preserve them from anything that might prove

injurious. No inducement shall ever lead me to administer poison, nor will I be the author of such advice. I will maintain religiously the purity and integrity, both of my conduct and my art. Into whatever dwellings I may go, I will enter them with the sole view of succouring the sick. If, during my attendance, or even unprofessionally in common life, I happen to hear of any circumstances which should not be revealed, I will consider them a profound secret, and observe on the subject a religious silence. May I, if I religiously observe this my oath, and do not break it, enjoy good success in life, and in the practice of my art, and obtain general esteem forever. Should I transgress and become a perjurer, may the reverse be my lot."

Now, whatever the altered circumstances of the times have made obsolete and inapplicable in this grand summary of professional obligations, the principles which it recognizes are of perpetual obligation. None of them could be better presented, and some of them I might not have chosen to express; but there is a parity of conditions which will not fail to warrant their application to ourselves, our relation to each other, to our calling, to our patients and to the public. But especially are the sanctity and the devotedness of the order to which these principles of conduct, and these sentiments of fraternity apply, as well in our cases as in any other, well worthy of acceptance and observance. Our young profession demands of us equal ardor of service, and equal jealousy of defence, as medicine did in the distant age of its early infancy: above all things, it needs the spirit and corporate enthusiasm, and priestly purity, and sacredness of dedication that correspond to its divine origin and beneficent aims. The idea that I would enforce here must be obvious enough, and sufficiently warranted by its practical results, but I am tempted to strike the thought still deeper to the grand principle upon which it rests.

History testifies that every upward movement among men has been effected through the spirit of corporate association.

The orders of nobility, knighthood, priesthood, medicine, law, fellowships in liberal learning, and the less formal, but equivalent etiquette of rank in social life, teach, unmistakably, that the policy of distinctive degrees is inseparable from culture and progress. That labor, which, in itself, is as honorable as any other, but is still degraded, dependent and oppressed, is so, simply because it lacks the organization and the protective sacredness of fraternity and corporate enthusiasm. Every function by which the world's interests are served, is equally honorable intrinsically, but none become free, efficient and honored, till its

members recognize their unity, interchange its sympathies, support its common interests, and defend its distinctive rights and honors. I do not need to say to you that I recommend no selfish conspiracy, no supercilious exclusiveness of caste, with a monopoly of honors and emoluments for its aims, and invidious means for their attainment.

It is not the maintenance of a party, but the promotion of progress, that is intended as the object of your ambition ; and only such measures, offensive and defensive, as comport with the most generous public ends, and are compelled by liberal and enlightened policy. Such conduct, in a word, in every thing as makes a prudent man better and wiser by the observance, and operates by replacing abuses with general benefits. These motives will direct us also most wisely and worthily in our dealings with the empiricism or quackery which still deforms the profession, and with the public opinions and prejudices which sustain it. I do not like the word empiric, and would be very cautious in its application. Literally, the word signifies no more than one who makes experiments ; by custom it is applied to one who enters the medical profession without a systematic education, and relies solely upon the teachings of his own experience. The censure which the term is intended to convey, is certainly not deserved by a practitioner of our art, who in defect of all opportunity for regular and best methods of professional study has depended upon his own industry and talent for such qualification as he could thereby attain to. We stand too near the time when dentists must have been self-made, or not made at all ; and we have too many examples among us of honorable and enviable distinction thus acquired, to be rash in applying the reproach which a better order of things now leaves without excuse. The honorary degree conferred by our young Dental Colleges upon a large number of gentlemen in the profession, has been induced by a sentiment of simple justice, strengthened, also, by a due modesty in the doctorate itself, which could not bear its own titular honors easily in contrast with equally deserving men who could not formally, but have equitably, earned them. In these circumstances, therefore, gentlemen, it is not your parchments simply, but your attainments that should be your pride, and this apprehension will dictate the consideration and delicacy due to the deserving. An empiric may, nevertheless, be a proficient in his art, and a graduate with all the honors may, also, be a mere sciolist.

A man is to be measured by his merits, notwithstanding that a diploma is *prima facie* evidence, and a worthy distinction, of character

and standing. Still it is your duty to repress and discredit unfounded pretension by all the means fairly and effectually in your power. This, in general, will be best accomplished by fully and decidedly answering to every claim of the accomplished and regular professors of our art, and by as decidedly refusing to admit those of the unworthy and incapable. A great advantage—an indispensable one—of the corporate organization which we have already urged is, that its honorable reciprocities withheld may act as distinctions and penalties upon groundless pretension. Just as the disciples of Hippocrates were sworn to admit to the fraternity, “those who had been inscribed as pupils, had taken the medical oath and no one else;” so we are bound to refuse fraternity to the irregulars, who repudiate the essential obligations of the profession, and discredit its name. We do not expect, and I do not think we desire quack laws of the legislature to repress abuses, but we require quack tests established by ourselves, and well received by the community, by which they may be speedily and certainly extirpated. This is our proper duty, we must address ourselves to it, and the means within our command are, in general terms, the improvement of the system of private tutorship, the active support of the collegiate system, now fast rising into confidence among us; the liberal encouragement of our periodical publications, the organization of efficient dental associations among practitioners for their mutual improvement and protection, in every district where such parliaments of progress are practicable, and also the decided establishment of all those distinctions which serve to certify character and standing among ourselves, and instruct the public judgment in deciding upon professional pretensions.

These things, and all which they include, we would press upon your consideration and commend to your hearty observance. The profession, to adopt the battle orders of Lord Nelson, “expects every man to do his duty.” To you is assigned the post of honor, and we will not allow ourselves to doubt your worthiness of the trust, or your fidelity and efficiency in performing it.

There is a moral chivalry, nobler in tone, pitch and purpose, because more benificent, than that of arms. Are you baptized with its spirit, capable of its service, devoted to its achievements? Then you will exert its energies, and secure and enjoy its victories.

I began by bidding you welcome to your professional honors. I close by committing you to the divine care in your public duties and personal destiny.—FAREWELL.

LISBON, PORTUGAL, 7th January, 1854.

MESSRS. JONES, WHITE & M'CURDY :—Your message requesting me to correspond for the "News Letter," was received a short time ago, and in reply, I would say, that it will give me great pleasure to communicate all such information as I think will interest the profession. Since my last letter to you, I have changed my location, and the prospects of success appear good.

While in the Island of St. Michaels, I had one case of "mucous engorgement of the maxillary sinus," which the resident physicians had treated unsuccessfully. A gentleman applied to me on the 25th of February, 1853, saying that his physician had advised him to consult me with regard to an affection of the right side of his face, with which he had been suffering for some years. I immediately made an examination of his teeth, which were in good condition, with the exception of the first superior molar of the affected side, which was slightly painful to the touch; and the surrounding gum was very much inflamed. There was also a mucous discharge from the right nostril, which was accompanied by severe pain. Feeling certain that the disease was an affection of the antrum, I advised the extraction of the tooth, to which he readily consented. I afterwards introduced a probe, and made an opening at the base of the sinus. The operation was followed by a free discharge of foetid purulent matter, and immediate relief from pain. Injections were employed, and a cure effected in about eleven weeks.

In my next, I will give you an account of the trouble I had in obtaining permission to practice in this city.

Very truly yours,

W. C. STARBUCK, JR.

Rua das Portas de Sta. Catharina, No. 21.

A NEW NON-CONDUCTOR FOR CAPPING DENTAL NERVES OR TENDER TEETH.

BY C. A. DU BOUCHET, M. D., D. D. S.

Ever since Dentistry has laid claims to professional dignity and learning, the mind of the practitioners of our noble art has been directed to overcome certain difficulties, greatly interfering with the success and certainty of our operations. Many of these difficulties have, one by one, been conquered; yet, one in particular still baffles our skill, although, probably, more scientific attention and professional lore has been bestowed upon this subject alone, than perhaps on all other matters pertaining to Dentistry.

With a view to obviate the evils arising from filling a tooth over an

exposed nerve, or in a tender state, various operations have been devised and performed. The operation of capping the nerve of a tooth was, I believe, prior to that of destroying it; of course I now allude to the ancient procedure of the actual cautery. Capping nerves has never, as far as I can ascertain, proved an eminently successful operation. This want of success, attributable to a variety of causes, (to which I shall presently allude,) gave rise to the employment of caustics and escharotics to cause the death of that troublesome subject.

Arsenious acid became then much in vogue; but as the whole matter was yet comparatively involved in obtuse darkness, the mode of using that agent, and the subsequent treatment, did not come up to the requirements of the case, and consequently, the failures being numerous, compelled the practitioner to abandon its use for the time being.

The profound researches of our cotemporaries, aided much by a better knowledge of pathology and morbid anatomy, shed an effulgent light, which the fullness of the expose of their mode of practice, rendered a perfect Aurora Borealis. With their characteristic professional generosity and open heartedness, they freely communicated to the profession their *modus operandi*; and their successful experiments repeated ad infinitum throughout the land, have entirely settled this point. It is believed that at the present time we generally know how to use arsenious acid; we also understand that the dead pulp should be removed, and a certain length of time elapse ere we fill a tooth; but in this, our general success in killing properly a nerve, we have lost sight of the opposite operation, that of preserving an exposed nerve in a *healthy condition*.

We advocate on this point no half-way condition; we recognize but two states—life or death. We have no faith in such an operation as will merely allow a tooth to stay in the mouth. Believing that the knife is not always preferred by the good surgeon, and as we have not yet heard of any operation which would answer better or even as well as capping in such cases as bid fair not to require the destruction and extirpation of the pulp, we propose to express our opinion regarding this operation, and briefly review the substances which have been used from time to time, by different practitioners, to fulfill the indication, and give, without reserve, to the profession one *new substance*, which to our knowledge *has never been used* for this purpose.

Let us first premise that we consider unfrequent, such cases as would in *our* estimation induce us to prefer the operation of capping. We believe that if a dental nerve has become much exposed by the decay

of a tooth, or has been seriously wounded in excavating a carious tooth, it were worse than useless to attempt capping; generally we endeavor to abstain from uncertain operations; in such cases as above mentioned, we invariably resort to Professor White's mode of treatment; in other words, we follow the indications he gives for the use of arsenic.

The difficulty experienced in persuading patients to allow us to extirpate a dental nerve, is the reason why we give arsenic the preference, although we are convinced that extirpation is *the* operation.

We have resorted to the operation of capping in the following cases:—Firstly, when in excavating a tooth, we came so near the pulp as to see it through the thin layer of dentine remaining over it. Secondly, when in excavating a tooth we have exposed the pulp to the extent of the prick of a small pin. Thirdly, we have also found it very useful to interpose a non-conductor in teeth, requiring their root or roots to be filled, thereby preventing entirely the unpleasant effects of heat and cold.

The want of success in the operation of capping, is attributable to some of the following causes, or even to several combined in the same case, viz:—Intensity of inflammation in and about the tooth; too great exposure of pulp; idiosyncrasy of temperament; bad adaptation of material; too great conduction of material; too great expansion of material; destructibility of material. Although such a list of difficulties, which could still be increased, is almost enough to deter the operator, we are satisfied that when the operation is performed in any of the cases we have pointed out as practised by ourselves, it will prove successful in ninety-nine cases out of every hundred.

The first material used for capping nerves was sheet gold filed to proper shape, so as to be introduced and retained in the cavity. Sheet lead was afterwards substituted, in the hope that the oxide formed on the surface next to the nerve, would be calculated to soothe any irritation arising after the operation. The great conduction of either of these metals prevented their being successfully employed, and resort was had to other substances. Gums of various kinds were used, such as shellac, copal, mastic, &c. Some ten years ago we were in the habit of using an alcoholic solution of gum mastic, evaporated to great consistency and then thickened to a stiff paste by the addition of plaster of Paris; for a while we thought we had made a hit, but abandoned the use of the article. Asbestos we next employed with very great success, and still make use of it in cases where the roots are filled and we have not at hand the substance of which we have recently

made use. Pulverized glass, feldspar, plaster of Paris, Hill's stopping, gutta percha alone. We used also cork, raw silk and charcoal, and after numerous trials, limited ourselves to experiment upon paper, whalebone, goose-quill, turtle-shell and horn. This last article we have found the best calculated in all respects to fulfill all the requirements. Horn can be pared or filed to any thickness; it may be obtained of any hue. When cut of suitable shape, by immersing it for a few moments in hot water, we have it in an almost plastic state; allowing it to assume such a shape as we may desire, exposure to the atmosphere, or cooling, for a few moments, restores it to its former toughness. We have never been able to manipulate whalebone or goose-quill so satisfactorily, on account of their great elasticity, which would make them fly out of the cavities if pressing upon the sides as is usually required.

We think horn a sufficiently good non-conductor, its indestructibility is well authenticated. When used as a manure for grape vines, in France, horn parings, procured at the blacksmith shop, have been found to retain their integrity after nine or ten years' exposure to the vicissitudes of temperature and the action of the earthy salts.

We have used horn with great advantage in the case of front teeth decayed to a shell; by placing a thin plate of this material against the front enamel, we avoided entirely displaying the color of gold through the enamel, and preserved a natural color in the tooth.

The great similarity and affinity of structure of the substance used as a non-conductor, with that of the tooth, in close contact of which it is of considerable importance in promoting the deposit of bone, said to take place under favorable circumstances, and we know of no substance combining all the desirable requisites to such a degree as horn. We hope the profession will give it a fair and thorough trial, which must result in making horn a valuable addition to our therapeutics.

REMARKS ON THE ABOVE.

The above intelligent paper is of much interest to the profession, from the fact that the author seems to have given it great attention for many years; and especially to those who still believe that it is sound or good practice to endeavor to save an exposed pulp alive. Medicating an exposed pulp, and then capping or arching it over, in order to prevent the actual contact of external agents, seems to have been, until of late years, the principal means depended upon to obtain so desirable an end; but this method of treatment has given way to, apparently, a very different theory and practice. *Non-conductors* and non-metallic substances, seem now to be relied on entirely. Many in the profession

are doubtless familiar with most of the substances named, and each one in their turn have had their advocates. But horn and shell seems, and very justly, to be preferred by the author, and which is favorably brought before the profession. It will take the shape of the bottom of the cavity much better, we have no doubt, than many other articles used heretofore, especially if it be prepared as directed, and is as good, if not a better non-conductor, than any other substance named, that is as close in texture. The profession had been apprised for some time, by one of two eminent practitioners, that they were experimenting with a substance which, if placed between the plugging material and the exposed pulp, there would be no danger of unpleasant consequences, and which experiments, when perfected or completed, or satisfactory to them, would be communicated to the profession. We waited patiently for the revelation of *Goose-Quill*, and by some apparently informal manner, it became known to many of the profession, but not as yet in that desirable form that could be wished, for the credit of the original claimant of the suggestion of the substance. It does not seem to us that the question turns upon the difference between the capacities of these different substances to resist the changes of temperature ; but upon the pathological condition of the pulp, when actually exposed, it does not seem possible that any foreign substance can take the place in any degree of a normal tissue, especially to be in close contact with so impressible a tissue as a dental pulp. We have said elsewhere, and we have as yet observed nothing to cause us to change our position, that as well might we expect to procure a healthy function of the *rete mucosum*, when denuded of the *epidermis*, by substituting one of our own invention, as to procure a healthy function of the pulp when deprived of its natural protection—the bone. The various modes of treatment which have for their object the preservation of the pulp must be of that order. We regard the propriety of capping an entirely exposed nerve as already settled, and the intervention of any substance to cut off the effects of external influence of any agents differing from the material used as a plug, as of questionable propriety. The uncomfortable impression of cold upon a tooth where there is a due amount of dentine to keep up a healthy function of the pulp, is always of short duration, and when that has passed off, the tooth is in a better condition, plugged with one material, than with more and of different characters. And where the remaining plate of dentine is extremely thin, it is as liable to be absorbed or to go on to soften, as to become hardened or increase in thickness.

For the Dental News Letter.

FREAK OF NATURE.

MESSRS. EDITORS:—Your solicitation to the different members of the profession, has induced one that has never contributed to your valuable journal, to examine his case book, to see if there was anything that would in the least degree advance the upward tendencies of the dental profession; and, in citing this case, I do so more particularly to encourage the young America of the profession.

A lady, aged, say 50 years, from a neighboring town, presented her mouth for examination, by the advice of two prominent medical men of that region of country, for an enlargement of the palatine surface. Supposing that an indolent tumor, or kindred disease, was developing itself, requiring the application of the surgeon's knife, the lady had several plates fitted to and covering the roof of the mouth; but in consequence of the continued enlargement of this tumor, had not been able to wear them for any length of time. I was induced to ask her to allow me to cut into the enlargement, knowing there was either a tooth or tumor presenting, and suspecting the latter, much to my surprise a beautiful canine tooth presented itself, and on removal was perfect. *Where* this tooth had remained until this period of life remains to be seen, or was it a freak of nature? The peculiar position, $1\frac{1}{2}$ inch from the alveola border, five or six lines to the right of the mesial line, and presenting from within outwards, so that a pair of straight, narrow-beaked forceps was employed for its removal. I have frequently read and heard of a third set of teeth presenting themselves, but this is the nearest approach to that phenomenon that I have ever seen; if the remaining teeth should present in that unruly manner, no doubt the lady will exclaim, "from such, good Lord, deliver us."

H****, Spruce St.

REMARKS ON THE ABOVE.

We congratulate our correspondent H. upon his first appearance in our journal, and we hope he will *look* into his case book again. We do not think the case cited was a freak of nature, we have a specimen among our collection of heads, where a canine tooth is lying in a similar position, which it has doubtless taken from the too early extraction of the deciduous canine tooth, which allowed the lateral to fall back against the first bicuspid, and instead of the canine finding its way through the gum on the anterior surface of the dental arch, it took a

backward direction, and when fully grown did not cut the gum as when they develope on the anterior surface of the arch, but merely produced a protrusion of the gum, it would require the tooth to be much longer than they usually are to permeate the gum in that direction, and they lie obliquely, too, which is against their eruption. We have seen many cases of this kind. A patient of a friend of ours, nine years ago, applied to us for a whole upper set of teeth, except the third molars, all the rest having been extracted for some time. We observed a tumor in the roof of the mouth, or near the posterior base of the alveolar border, and a little to the right of the mesial line; we at once pronounced this to be the result of the non-eruption of a canine tooth, lying obliquely under the gum, and unless this were removed it would be the cause of future trouble. This, however, our patient would not agree to, as they feared it was, or might be a malignant tumor. Consequently, the artificial denture was constructed and placed in the mouth, and was worn for four or five years, when the said tumor commenced to be the cause of great trouble and solicitude. Upon examining the parts, we discovered that the gum had become absorbed between the plate and the tooth, so as to bring them both in contact with each other, and it appeared that the tooth had undergone sufficient decay to expose the pulp, and it becoming inflamed the patient was really suffering from a genuine tooth-ache. It was now proposed, as a matter of course, to extract it, as it had become somewhat loosened in its bed by the strong impingement of the plate upon it, which was favored by the absorption of the surrounding gum, but in this we were baffled for a long time, by the fears of our patient, and who was sure also that it was "*jaw bone*" instead of a tooth. They were obliged, however, from extreme suffering, to submit to its extraction. It presented an interesting appearance, as it was not altogether decay that caused an exposure of the pulp, but absorption of the enamel and dentine seemed to have taken place also; the absorption must have taken place outside, by the action of the gum, at least so it would appear. It presents a very uneven surface, as though the absorption had commenced in spots. We have this specimen in our cabinet, and it can be seen at any time. In another instance, of a similar kind, when the tooth cut through to the plate, we cut out a hole in it, large enough to let the tooth come through, which it did in a short time, the gum healed kindly around it, and it now subserves the purpose of aiding, in the absence of a former tooth, to support a partial set of artificial teeth, by attaching to it a gold band.

J. D. W.

AWARDS AT WORLD'S FAIR.

The following communication from Dr. E. Parmly, was written us in answer to a letter asking information as to whether the awards, as published officially, were made by the Committee on Dentistry. Dr. Jno. Trenor has kindly sent us a copy of the original report and awards of the committee, which will be found annexed. ED.

NEW YORK, March 8th, 1854.

DEAR SIR:—In answer to your letter, I will give you a short account of my connection with Jury F, of the Crystal Palace, which resulted in making higher awards from the department of Dentistry (according to the statement of the Dental Recorder,) to the authors and exhibitors *collectively* for other men's work than it did to the authors and exhibitors *personally* for the highest degree of professional skill and mechanical ingenuity. A result highly prejudicial to honest merit—insulting to those who gave valuable time and careful attention to examine and inquire into the real claims of each exhibitor—and reprehensible to those who, without knowledge of the use and value of the things exhibited, and without truth in stating their claims for award, have disregarded the committee's report and substituted and published one in direct opposition to it, at variance with the avowed objects of the Institution—unfair and unjust to candidates who, for excellence and excelling in their respective departments, have just claims to distinction—and honoring those whose presumption and imposture should have been met with that contempt and disgrace which attaches only to artifice and dishonor, for exhibiting, as their own, the work of other men's hands, and claiming for themselves award for designing, making and producing specimens of mechanical and professional art, to the manufacture of which they had no just claim.

On the 22d of November I received notice of my appointment as Juror on Dentistry at the Crystal Palace. The same evening met the Commissioners and accepted the appointment. My colleagues were Dr. John Trenor and C. C. Allen, of this city, and Dr. T. L. Buckingham, of Philadelphia. Immediately after accepting the appointment, (Dr. Buckingham only being absent,) we commenced with such of the exhibitors as were there to examine the articles exposed for competition, which examination was only partial. On the Saturday following, Nov. 26, we again met and organized, by choosing Dr. Trenor, Chairman, and C. C. Allen, Secretary. After passing a resolution or two, it was agreed that we should meet on the following Saturday, December 3d, at 2 o'clock, and in the mean time all the exhibitors, as well as Dr. Buckingham, should be informed by the Secretary of the time of meet-

ing. On Friday, the day previous to the time fixed, Mr. Asahel Jones, of this city, called upon me, with a petition addressed to the Commissioners signed by some of the exhibitors, requesting the appointment of another member to serve with the committee already appointed, and asked me to sign my name to the petition, which I refused, saying to Mr. Jones, if the Commissioners are not satisfied with those already appointed, they have a perfect right to appoint others. On the same day, J. G. Ambler, (who some years ago exhibited a large gold medal in his show case at the fair, which medal, be it known, was not given, as alleged, as an award of merit, but bought and paid for at a medal maker's in Reade street,) called upon Dr. Trenor to get his name to the same petition, and who received from Trenor, in reply to his request, that he would not only not sign the petition for the appointment of another Juror, but if another was appointed he would immediately resign. In the face of all this, a statement was made, as we were informed, by this same individual to the Commissioners or persons in office at the Palace, that he had seen Dr. Trenor and myself and that we were perfectly satisfied and had agreed that another should be appointed, and the name of Dr. Foster, of Utica, being submitted, he was upon such representation appointed to act with the four already named. On going to the Palace, at 2 o'clock, December 3d, we were there, for the first time informed, that Dr. Foster had received the appointment, and on hearing it, Dr. Trenor and myself went to the Commissioners' room to resign, but when we heard the representations that had been thus given to the Commissioners, upon which the appointment of Dr. Foster had been made, Dr. Foster was called in, and on hearing the very strange procedure, he very courteously and properly withdrew.

The four persons first appointed then went into a very careful examination of the articles on exhibition, taking notes on each individual case and particularly on all specimens upon which the exhibitors claimed award. In order that the claims of all might be fully investigated, each exhibitor was asked by the committee what he particularly claimed or desired more forcibly to call the attention of the committee to, in his particular case—thus giving to each an opportunity of making known any special merit to which he might consider himself entitled. After getting through with the examination, the committee held a formal meeting to compare notes and decide upon the merits of the articles examined, at which meeting, C. C. Allen was Secretary, and wrote down (*in no way dissenting*) each case as decided upon, and we had passed upon all except that of Ambler & Avery, when we were summoned to leave the Palace by the ringing of the "shutting up bell;" but, before we separated that evening, we were unanimous on

every other case and agreed to meet on the following Monday evening to decide upon that, and also to hear our chairman's report. We met and spent nearly three hours in discussing this matter, but could come to no agreement as to the claims of these two individuals on the merits of their work; nor could we ascertain whether Ambler & Avery were partners, and if partners, whether the one or the other made the specimens exhibited.

The question was put directly to Ambler at the Palace, whether he did or did not do the work, to which he gave no satisfactory answer and would not say that he did, but said that both sets were made by himself and Dr. Avery, but had *forgotten* which set he himself made. Not being able on such equivocal testimony to decide whether both or whether either the one or the other was entitled to the slightest consideration for what we saw, we separated with the understanding that we would meet the next evening and endeavor to settle the point, but before we separated, C. C. Allen twice requested that all that had been said in committee should be considered strictly confidential, to which Dr. T. replied, that such request was not necessary, as all acts in committees were always considered strictly confidential; but, so far from regarding what he enjoined upon us, he declared the next morning in a public sales-room that Dr. Trenor and myself were doing just as little as we could, while he "was doing just as much as his *conscience* would let him for Dentists," adding, at the same time, that he "had now a good business and could afford to help other dentists by speaking well of their work," &c. C. C. Allen's *conscience* may truly be considered to be of a very peculiar character. A proof in point is, he would give a medal of high distinction to Ambler & Avery for *merely exhibiting* the work of D. H. Porter or anybody else. On meeting the following evening we presented to C. C. Allen the following written proposition:

"In order that the committee may bring the points of difference into the smallest possible compass, it is proposed that we first ascertain whether the pieces on exhibition, in case No. 158, were done by Mr. Avery alone, or that Dr. Ambler had had as much to do in their construction and finish as Mr. Avery.

"If this point is, or can be decided, then we will take those pieces and compare them with those of Kingsley & Reynolds, and if the pieces are considered to possess equal merit with the latter, make a similar award, to Ambler & Avery, if conjointly entitled to it, or to either separately, as it may be adjudged."

On hearing this proposition read by our chairman, C. C. Allen immediately rejected it, saying Ambler & Avery were entitled to

award, having *exhibited* the work, and whether they made it or not made no difference, the same as the manufacturer of boots would be entitled to award, if he exhibited a handsome and well made boot, and no inquiry should be made as to who made the boot, or where it was bought for the purpose of exhibition. C. C. Allen added, however, that to his knowledge, the work exhibited in the case of Ambler & Avery, was done by Ambler, for he himself saw the latter at work on those very pieces.

Having only to be slightly "*on the watch*" to discover that C. C. Allen's *conscience* was exceedingly accommodating and expansive, as I could not now, as on a former occasion, perceive either fairness or justice in his perceptions and arguments in relation to the makers and takers of boots and "booty," I declined sitting any longer in committee with him, and he, after receiving a very sharp rebuke from our chairman, for his betrayal of what he twice requested should be considered confidential, he then for the first time declared that he objected to the whole proceeding; upon which Dr. T. proposed that he and myself should sign the report, Dr. Allen refusing to do so, and forward the same to Dr. Buckingham, in Philadelphia, for his signature. When C. C. Allen then said, for the first time, he should furnish a minority report. The report was accordingly signed, and sent to Philadelphia, and duly returned with the signature of Dr. Buckingham, accompanied with a very handsome letter from that gentleman expressing his high approval of the report.

We were next called together December 12th, for the purpose of presenting our reports to the Chairman of Jury F, Professor James Renwick, and after they were presented, some little discussion took place as to their final disposal, when it was proposed by Professor Renwick that the whole should be referred to the Committee on Surgical Instruments. At that moment Professor Carnochan, one of the aforesaid committee, entered the room, when it was unanimously agreed by all parties, that the whole should be referred to him, and that his decision should be final.

From that time until the publication of the pamphlet containing the official announcement of the awards of the several committees, I heard nothing of the decision made upon our report; but, on having my attention called to the published and official record, I was greatly surprised to see that the report had been wholly disregarded, and awards made to six exhibitors not named by us. After reading the published account, I called upon Professor Carnochan (he being, by agreement, the only one who had a right to alter the report and awards) to learn

from him upon what grounds he made the awards, when he informed me, with that frankness which distinguishes all his acts, that he had nothing to do with making them, and had only called attention to a single combination, consisting of teeth and palate not spoken of by us, but in every other respect entirely approved of the majority report and awards, and recommended its adoption as furnished by our chairman. Having thus a direct denial from Professor Carnochan of altering or adding to the list, (except the case above stated,) of awards made by the committee, I communicated the same to our chairman, who addressed a letter on the subject to Professor Renwick, the result of which will be found in the New York Medical Gazette for April.

I will here take leave to state that at our first meeting we decided to award to Jones, White & McCurdy, a silver medal for the best manufactured artificial teeth. The same to Charles Abbey & Sons, for the best gold for stopping teeth. A bronze medal to N. Kingsley, Dentist, of New York, and the same to R. T. Reynolds, Dentist, of Philadelphia, for very superior skill in workmanship in making and adapting sets of teeth to the mouth. But it was apprehended by the committee, from information received, that silver medals would not be admissable, in which case bronze ones were to be substituted, and certificates to Kingsley and to Reynolds. The decision of this point, the chairman of the sub-committee was directed to leave to Professor Renwick, Chairman of Jury F. This gentleman stated that silver medals could not be given. The awards were of necessity changed, and in changing them we endeavored to keep up the same relation in point of excellence, and to award the same praise and distinction for individual merit.

I am not aware by what authority these several awards were made. The censure and ridicule that has been thrown upon the committee by the profession, for the manner in which they were made, is perfectly natural, as we only are considered the responsible persons, having been selected by the Commissioners for that express purpose, which purpose we endeavored faithfully to discharge, in order to save the public from imposture and the profession from ignominy and reproach; and we are disappointed in both, and it is only necessary to mention one instance to prove the assertion.

The reason assigned for giving a medal to Ambler & Avery is not true. We see in the published official catalogue that it was given "for the largest collection of Mechanical Dentistry." Now there is not a shadow of truth or justice to support this announcement, as it is well known that Palmer & Brown of Massachusetts had a collection some half a dozen times as large as Ambler & Avery's, with as good

work and in much greater variety, and all of their own manufacture. Mr. Palmer having himself informed us that all, from the quartz rock, &c., to the finished specimen, were done in his own laboratory. While I assert, from unquestionable authority, that Ambler & Avery had not a single tooth in this "largest collection of Mechanical Dentistry," upon which they claimed award of their own making, notwithstanding Mr. Ambler told Dr. Buckingham, (see his testimony,) "that they manufactured all the teeth and put them up with their own hands." And C. C. Allen gave, as before stated, the same kind of *reliable* testimony, having told Dr. T. and myself, that he saw Ambler making the very pieces now ascertained and said in the Recorder to have been made by D. H. Porter. Yet Palmer & Brown receive "honorable mention" for a single set of teeth, selected from a collection outnumbering and outweighing all other specimens of Mechanical Dentistry in the exhibition, while Ambler & Avery receive a medal, the highest prize awarded, for the "largest collection of Mechanical Dentistry," consisting of teeth, &c., &c., manufactured by other persons. Even if it had been true in relation to the *size* of the collection, there is nothing in *quantity* that should entitle one to award, but the *quality* alone should determine the value. And specimens in Dentistry have no value any further than they can be applied to practical purposes. And now it turns out that D. H. Porter, an exceedingly clever Mechanical Dentist, of this city, furnished the *quality* and made with his own hands the very blocks exhibited in these specimens. So much then for the honesty in claiming, and so much for the justice in awarding the highest premium given to any dentist at the World's Fair.

J. R. McCURDY, Esq.

Yours respectfully,

E. PARMLY.

COMMITTEE'S REPORT.

The committee, consisting of four, to whom was referred the articles appertaining to Dentistry, on exhibition in the Crystal Palace, beg leave to report, that they have examined with much care and attention the several articles in question, consisting of artificial teeth, in the different forms in which they are usually prepared for practical purposes, and also metallic foils, generally employed for filling the cavities in the human teeth.

With respect to the first, viz: artificial teeth, the subject may be properly divided into two branches: first, what is termed mounting them on metallic plates, or otherwise preparing them for use in the mouth; and, second, the manufacture of these materials. The first comes properly within the province of mechanical Dentistry, and in this department there are numerous specimens of plate teeth, mounted

on gold and other metals, from one tooth to whole sets, and which, so far as can be judged by simply examining them, are finished and burnished in the highest possible manner.

It will be easily understood, however, that the chief value of these preparations, in a professional and practical point of view, consists in the accuracy and neatness with which they are fitted, the ease and comfort with which they can be worn, and the greatest extent to which they subserve the purposes of mastication, articulation, and improvement to the countenance—the greater merit being accorded to those cases in which such purposes are most effectually accomplished. But it is proper to add, that the information which could justify an award upon those most important points, cannot possibly be obtained by any examination which an exhibition of this kind affords.

Neither is there any novelty or improvement in their construction, which could render them more capable of fulfilling the purposes for which they are required, than such as the profession, both here and elsewhere, is perfectly familiar with, and constantly performing.

There is a practice prevailing at these exhibitions, of displaying, from year to year, pieces of workmanship, which are intended to attract notoriety from their superior mechanical execution; but which, for all practical purposes, are totally useless, as they never could be worn. A practice so closely bordering on deception, however otherwise represented, cannot be too pointedly censured.

Under the second head, the manufacture of these teeth, it may be stated, that all in the exhibition are of the same character as to composition, viz: different combinations of earths, baked or burnt, mixed with metallic oxides, for coloring them. This branch of manufacture has been gradually improving, until it has now attained a high degree of perfection, imitating very closely the natural human teeth.

Even their imperfections are, in some of these specimens, accurately copied, blurring the surface of the teeth by dark spots and stains, not very pleasing to the eye, though such things it may be desirable sometimes to imitate.

AWARDS.—The committee would recommend a certificate for superior workmanship in mechanical Dentistry to R. T. Reynolds, M. D., Dentist, Philadelphia.

A certificate for superior block work, and ingenuity in imitating the discolored spots on the surface of the human teeth in the articles he manufactures, to Norman W. Kingsley, No. 858 Broadway, New York.

A bronze medal, with certificate for important improvement, in the manufacture of the best artificial teeth, to Jones, White & McCurdy, Arch Street, Philadelphia.

A bronze medal, with certificate for special improvement, to Abbey & Sons of Philadelphia, for the best metallic foils.

All which is respectfully submitted.

Signed,

JOHN TRENOR,
E. PARMLY,
T. L. BUCKINGHAM.

New York, December 12th, 1853.

REMARKS ON THE ABOVE.

We have often been struck with the opposite opinions expressed by different persons on viewing a certain object, and the great diversity of opinion entertained. One is captivated with the beautiful, another with the useful. The first would be enchanted with a brilliant picture, the latter absorbed with a complicated piece of machinery, and yet how few are judges of the merits of either. We had this fact forcibly illustrated and impressed on our mind during a visit to the Crystal Palace. In the picture gallery we remember well a painting, around which were gathered quite a crowd, and the only quality it possessed, in our estimation, was its *very* bright colors. The foliage was decidedly *green*, and the sky was "deeply, darkly," but not "beautifully blue," indeed it was anything but a cerulean blue. The head of the female was all very well, perhaps, in fullness of outline for a Hollander, but the "rose-tint" on the cheeks and lips was of the richest vermilion, "laid on thick." Altogether it was an extravagant picture—a real "waste of the raw material"—the artist having taken more than an artist's license with the "human face divine," and yet its admirers were legion.

These prefatory remarks are made that the reader may not be surprised at what follows. The numerous officary of the Palace, it would seem, were not exempt from the same incongruities of judgment and taste, as the estimate they have placed upon Dentistry and artificial teeth clearly demonstrate.

It will be seen from the communication of Dr. E. Parmly, that the Committee on Dentistry was disposed to award silver medals; but that Professor Renwick assured them that silver medals could not be given. Let us run over the official catalogue of awards made by the various juries, and see to what extent and for what purposes silver medals were given. We find there was awarded one hundred and twenty-two silver medals, some of which were for the following articles: for drab colored and brown stone, ores, coals, clay, marbles, raw cotton, *meat biscuit*, *champagne wine*, flour specially adapted to general use, (notice the phraseology,) pianos, opera glasses, "carriage for gala days," *hair work*, *felt hats*, *gaiter boots*, and *traveling caps*, etc.

Now there is no great originality of design or invention in the minerals, and how do the other articles contrast in importance with artificial teeth, especially opera glasses, wine and traveling caps? Verily, Professor Renwick places an exalted estimate upon Dentistry and its appliances, and exhibits, in the part he plays, the bearing of an emperor or an autocrat, in first stating that silver medals could not be awarded in the department of Dentistry, and next in adding to the awards made by the jury or committee to such an extent and on such trivial grounds as to render nugatory or almost worthless all that has been done. In this connection we are reminded forcibly of the remark of a petty African prince, who stated to an European traveler that "he went out every morning early to permit the sun to rise," and asked his visitor what the Queen of England thought of him.

The truth is, this whole matter has been, to say the least of it, badly, contemptably managed by the authorities of the Crystal Palace, from beginning to end, as the following relation of facts will show.

Jury F, as originally constituted, contained but one Dentist, which was Professor Buckingham, of Philadelphia. This gentleman, at the time appointed, went to New York, at some expense of time and means, and by request of the other members of the jury, proceeded to examine the various articles of Dentistry, and after a careful analysis of their respective merits, made his report, which report was received by the chairman, Professor Renwick. The next step of these worthies was the appointment of three gentlemen in New York, Drs. Jno. Trenor, E. Parmly, and C. C. Allen, as a Committee on Dentistry, and it was only by the courtesy of this new committee that Professor Buckingham was apprised of this new appointment. No information and no reasons were given by the authorities for this step. Well, this new committee met, and by their request Professor Buckingham met with them. After organizing, they appointed a time and had the exhibitors invited to be present at the re-examination. The examination was made, each depositor being heard as to his claims, etc. Now add to this the fact that even this second and new committee who, be it observed, were limited as to the awards they should make, yet *their* report was not held final; but garbled and added to,* and now we have the evidence

* It may be proper to add that the umpire, Professor Carnochan of the New York Medical College to whose final decision the majority and minority reports (the latter signed by one only) were referred, gave a written opinion in favor of the majority report and awards, adding thereto a case of artificial palate, with teeth attached, which he thought worthy of a certificate. There is not a shadow of truth or justice for the additional awards which have been made public, as emanating from those officially appointed for deciding in these matters.

JOHN TRENOR.

of their vacillating, insincere and unjust course toward the exhibitors, and the insult to both first and second appointed committees.

Where was the use of committees? and why were they appointed if they were to be limited in their awards and their action was not to be final? We leave the question with Professor Renwick. J. R. M'C.

VALUABLE MOUTH WASH OR GARGLE.

The following formula will be found to be an invaluable prescription for a mouth wash or gargle, combining as it does, all the important properties required to meet the usual indications presented in diseases of the mouth and gums, and that are within the pale of the dentist to treat.

It will prove very efficacious in those cases of diseased gums, resulting from the accumulation of calculi around the necks of the teeth, causing a congested and relaxed condition of the capillaries at the margin of the gum, and in prolonged cases where ulceration ensues, accompanied with fetor of the breath, also in fungus gum induced by the presence of stumps and carious teeth, and in local anemia, requiring stimulant and tonic treatment, &c.

R.—Sulphate of alumina, gr. xvi.

Labarraque's solut. chlor. soda, ℥ij.

Mel. Desp, ℥ss.

Aqua rosa, qt. sft. ℥iv.

Mice and gargle three times a day after meals.

As mistake is liable to occur by the druggist reading the prescription hurriedly, score beneath the *sulphate* of *alumina*, besides writing it full and plain, lest common alum be substituted, which would change its character materially.

The remedial powers of the wash it will be seen, are chiefly due to the alumina and Labarraque's solutions; the former, as a powerful detergent and astringent, and the latter, as a peculiar stimulant to the living tissues, and for its qualities as an antiseptic and disinfectant. The honey and rose water are used as adjuvants, as well as vehicles, and selected also for the purpose of rendering it acceptable in form to the patient. In cases requiring a greater amount of stimulant and astringent influence than this form gives, increase the proportion of alumina one grain to the ounce, making it twenty instead of sixteen grains to the four ounce mixture.

I have used this wash for several years in my practice in connection with several others, and I now offer it as my favorite.

D. B. WHIPPLE, M. D., Dentist.

Philadelphia, March 14th.

For the Dental News Letter.

CRYSTALLIZED AND SPONGE GOLD.

MESSRS. EDITORS—*Sirs*:—I wish, through the columns of your journal, to call the attention of the profession to the preparations of crystallized and sponge gold lately introduced for the purpose of filling teeth. I have been for some months testing and experimenting with them, and from the results, think myself warranted in recommending the new preparations, as being of the utmost importance to the operating dentist.

The same force will make a harder and more solid filling of it than if gold foil were used. Its plasticity enables the operator to fill shallow or saucer shaped cavities with greater ease, thus doing away in a great measure with the necessity of removing sound dentine or enamel in order to find a sufficient hold or stay for the ordinary filling. This I consider of great importance, as it leaves so much more of the natural organs, in fact, there is just so much more of the teeth saved. If it is the professed object of the dentist to save teeth, he should save all the teeth he can, and also as much of any one tooth as the best means in his power will enable him to preserve for the benefit of his patient. All the dentine or enamel thus saved can be considered as an advance in our practice, and be it little or much, the mere ability to save it by means of this preparation, constitutes, in my opinion, a most powerful claim in its favor.

The ease with which separate masses of the gold are welded together under the condensing instruments is another valuable property. It enables the operator, after thoroughly packing a thin layer in the bottom of the cavity, to pack another layer upon it. The two, uniting completely, forming, if properly worked, a solid mass of the metal. These layers can be thus added until the whole cavity is filled by what is thus rendered one solid piece of gold, *as solid and compact at the bottom, sides and centre, as it is upon the surface*. Of course, a filling possessing these requisites should finish up well, and this can really be finished beautifully, though in this respect it will not surpass foil when worked by skillful hands, unless it may be in the durability of its brilliance, which I believe will prove to be the case in consequence of the greater solidity of the mass.

These preparations are admirably calculated for filling compound cavities. Where the decay has extended to more than one side or surface of the tooth, such cavities can be filled and the form of the tooth restored with greater ease and security than with foil. The gain here is in the time, labor, and in the durability of the operation, as also in

the occasional saving of tooth substance, in consequence of the diminished necessity of using the file.

Another advantage yet unmentioned is no slight one. It is always ready to be put into the cavity; it has only to be broken into small pieces of suitable size. Hence, the time spent in cutting, rolling, folding or twisting the foil, can be more profitably employed.

To sum up, its claims for professional favor, are:—1st, a saving of labor, of which most men are not too fond. If any are, they have 2d, a saving of time, and can consequently accomplish more in a day if they wish. 3d, a saving of tooth substance, in fact, of teeth. It is for this object we practice. 4th and last, and greatest, a better operation when completed.

I now propose to notice some objections I have heard raised against its adoption. They are more fallible than numerous, some are very trifling, though seriously urged, viz:—1st, *it is too expensive*; 2d, there is too great waste; 3d, it will look badly in a front tooth when the walls of the cavity are composed only of enamel; 4th, a dentist will have to learn to fill teeth over again; 5th, an entire change of instruments will be required.

When I state that these are all the objections that have come to my ear, and I have heard the opinions of quite a number of dentists expressed, I believe many who may read this article, and who have hitherto considered the new preparation a humbug, will at once give it some attention. I most earnestly beg of them to do so, and hope they will give the profession the benefit of their experience. As the above objections have been seriously urged, I will endeavor to give them serious and satisfactory refutation.

As to the first, the cost per ounce is about the same as the best quality of gold foil. The advantages enumerated in the foregoing pages render it the cheapest in the end. 2d, in this respect there is a vast difference in the preparations offered for sale in this city. The one made by White, of Utica, is the one I have used the most extensively, it is darker colored, less plastic and less tenacious than the article made by J. A. Watts & Co. of the same place; it crumbles more readily, and on that account gives trouble while filling the superior teeth. Where it can be used with facility, however, it possesses all the advantages over foil that I have enumerated, though not in as great a degree as the preparation of Watts. The latter is much more plastic and tenacious. It does not waste any more than foil, and I am satisfied that it will prove in any and every case better than the best foil.

The difference in color is sufficient to answer objection No. 3; Watts'

preparation being near the shade of Abbey's foil, if anything, a shade lighter, and less brilliant when not burnished, consequently less apt to be noticed through the enamel. As to objection No. 4, I can only state my belief that a good operator will, after a little practice, be able to work it with more ease than he can foil, and with greater service to the patient, and as for the poor operator, it will doubtless be greatly to his patient's benefit, the very first time he uses it instead of foil; in either case, the art of using it must be acquired, no matter at what expense of time, labor and money, if its use is going to benefit our patients. And now for No. 5. The ordinary round-pointed pluggers, with grooves filed across their edges in different directions, so as to leave a number of small, well-defined points, are all that will be required for external cavities; for approximal cavities, we have only to combine the rough, condensing surface with an instrument sufficiently small as to allow of its being introduced between the teeth and into the cavity.

There has been also before the profession a preparation of crystallized gold, made by Messrs. Taft & Watt, of Ohio. It resembles, in color and style, the article made by White; it is, however, harder, and from the specimens shown to me, I should pronounce it inferior to either of the above.

In conclusion, I would again call upon members of the profession to examine this matter for themselves, and give their brethren the benefit of their experience and judgment. As to the manufacturers of the article, I regret that the duty I owe the profession compels me to make so wide a distinction between the relative merits of their preparations. I sincerely hope the only results that these remarks, so far as they are concerned, may bring about, will be an improvement in the quality of the inferior article.

Yours,

C. W. BALLARD,

858 Broadway, N. Y.

We are very much pleased with the candid manner with which Dr. Ballard gives his experience in the use of the preparations of crystallized gold. This is precisely what the profession needs to further develop the improvement of its practice. There has been a great deal of anxious inquiry about the best method of using it among our private friends in the profession, and we therefore intended, in the present number of the News Letter, to do what Dr. Ballard has done for us, to ask those of the profession who have been experimenting with these preparations, what has been the result of each one's experience, in order that the whole profession shall obtain, in as short a time as possible, the greatest

amount of useful information in relation to their proper use. There seems to be some difference in the qualities of the preparations of different manufacturers; but this difference will doubtless shortly pass away, when they reflect and experiment upon the suggestions that may be made, from time to time, by different operators. It has made as much progress towards a desirable state of perfection in a short time, as any other new thing of so much importance. The first that we used did not impress us with any more interest than to suppose that it would only be an experiment; but from learning more about it, and the character of the preparations being much improved, we are now of opinion that it may yet be a most important auxilliary to our present means of arresting the decay of the teeth. It would seem that it needs great skill and care in its successful employment as a substance for plugging, and hence it has been urged, that in the hands of the unskilful, it will be less successfully employed than foil, and its use subverted by the unprincipled; but this is more than begging the question, give it a thorough investigation and trial, and decide upon what its real merits may be in honest hands. We cordially invite the experiments and views of the profession through the columns of the News Letter.

J. D. W.

For the Dental News Letter.

GENTLEMEN :—I send you a page from my journal, which, if you see proper to publish, you are at liberty to do so.

Yours, &c.,

R. ALLISON MILLER, D. D. S.

REMOVAL OF A LARGE PORTION OF THE SUPERIOR MAXILLARY BONE AND FLOOR OF THE ANTRUM.

September 22d, 1853, 12 o'clock noon, Mr. M. (farmer, age 23,) called at my office and requested me to extract two teeth for him, which he said were quite loose. He stated that on the 20th, a *home dentist*, his neighbor, had attempted to remove the second right superior molar with the key, and in so doing had loosened it and the dens sapientia. *The doctor* now informed his patient that the tooth he wished extracted had grown fast to the one back of it, and it would be necessary to allow the offending organ to remain, or remove both. Unwilling to bear the pain any longer, Mr. M. requested the operator to proceed. With a flourish he took hold of the teeth with a pair of *shoe pincers* and wrenched violently, but in vain. These efforts caused the blood to flow freely from his right nostril, and the operator becoming alarmed, declared that "the teeth were not only grown fast together, but had grown fast to the jaw bone, and he *wouldn't* take them out!"

On examination, I discovered the case to be a much more serious one than Mr. M. supposed, his jaw being seriously fractured. The first molar had been removed six years previous to this occurrence and the second now occupied its place. The fracture commenced immediately in front of the anterior buccal fang of the second molar, and about a third of an inch in front of the palatine fang, and extended up to and included the floor of the antrum highmorianum and back to the pterygoid process of the sphenoid bone. He stated that he had more or less bleeding from the nose and mouth ever since the effort at extraction was made, and was spitting blood at that time. I gave him a correct statement of his case and advised the removal of the piece, as it was entirely broken off, and held in the mouth only by its fleshy attachments. He appeared encouraged on finding this practicable, but said he had been to a physician the day previous, who told him to let it alone, it would grow fast, but did nothing to stop the blood or keep the piece to its proper place. Not wishing to pursue a course in direct opposition to the advice of his physician without consulting another, I called in my esteemed friend Dr. ——. The doctor's opinion agreeing with mine, I immediately cut away the soft parts and removed the piece with my fingers. Blood now flowed pretty freely, though not to an alarming degree, for a few minutes, when it very considerably abated. I then saturated a piece of cotton in a solution of tannin in tincture of myrrh, and introduced it firmly into the cavity, and the hæmorrhage ceased. After giving him the necessary advice in regard to the care he should take of himself, he left for the house of a friend, where he remained until 5 o'clock, when the blood commenced to flow rapidly. He called at my office half an hour after, when I found the hæmorrhage really alarming. I removed the coagulum and cotton and packed a strip of linen, saturated in a strong solution of nitrate of silver, firmly into the cavity, and placing a piece of cork between the linen and inferior molars, tied a bandage under his jaw and over his head. Half an hour elapsed and no blood made its appearance. The patient being very weak, I drove him to his quarters for the night. I have seen him repeatedly since—he is doing well.

This is another case going to show that an operation safe and easy in the hands of a skillful operator may become not only troublesome but dangerous when intrusted to “individuals possessing neither knowledge of its principles, nor skill in its performance.”

Huntingdon, Pa., 1854.

For the Dental News Letter.

CASES OF TREATMENT OF DENTAL PULP.

BY J. D. WHITE, M. D., D. D. S.

List of teeth during one month, beginning September 4th, 1851, and ending October 4th, 1851 :

First. There were twenty-six cases of recently exposed pulps, I mean pulps that were either exposed by cleansing the cavity of decay for plugging, or teeth that were aching from inflammation of the pulps only, before treatment commenced. None of those cases were lost during the treatment except one, which was a wisdom tooth of a young lady, which proved on extraction not to have been completely formed at the apexes of the roots.

Second. There were nine cases that had been plugged over or near the pulps, by other operators, and were aching at the time I commenced their treatment, the pulps were destroyed in these cases and the teeth replugged, all saved, except one inferior bicuspid, which was extracted for periosteal inflammation, not abscess.

Third. There were six cases of periosteal inflammation and abscess of teeth in which the pulps had become dead after plugging, the plugs were removed, and when the teeth became comfortable were replugged, and all saved.

Fourth. There were fifteen cases of plugging nerveless teeth, where no abscess or periosteal inflammation existed at the time ; all of these cases had been plugged over living pulps by other dentists. They were plugged over for progressive decay and discoloration.

It will be observed that there were fifty-six cases in all, twenty-six recent cases of exposure of the pulps, and thirty of the treatment of cases that had been treated previously and at indefinite periods.

I have been in the habit of destroying the pulps of the teeth for years, it is fair to presume that if so large a number have been run out for years ; during the treatment of a given number of new cases, that a certain number of old cases would be returning in distress if the treatment was not successful in the great majority of cases. I have not extracted a single tooth after treatment, in which the root had been plugged within the last month, except the two cases named, and they, in all probability, might have been saved if a little time had been given ; but the patients were impatient and they were extracted. One of the above named cases of successful treatment, was a front incisor of a lad twelve years old ; two were front incisors of a girl ten years old ; three were deciduous molars of children four years old ; one case of a canine of a young lady twenty years old.

MEMOIRS ON A FEW FUNDAMENTAL POINTS OF DENTAL MEDICINE, CONSIDERED IN ITS APPLICATION TO HYGIENE AND THERAPEUTICS.

BY A. F. TALMA, M. D., DENTIST TO THE KING OF BELGIUM, &C. &C. &C.

TRANSLATED BY C. A. DU BOUCHET, M. D., D. D. S.

First Series. Brussels, 1852.

[Continued from page 58.]

CARES RELATING TO SECOND DENTITION.

The defective arrangements of teeth are usually limited to incisors and canines. It is more rare to find bicuspid out of range. As regards molars, although assuming almost always an internal oblique direction, they straighten as the alveolar borders enlarge, and also under the influence of the eccentric pressure acting upon them.

As a general thing, the irregularity of one tooth causes that of several others in the same arch, and likewise in the opposite jaw. Thus, an incisor inverted or everted, or merely twisted on its axis, will cause its neighbor to incline towards it in an opposite position, and thus the deformity may affect all the front teeth. On the other part, the corresponding teeth of the opposite jaw being subjected to abnormal pressure during mastication, and the occlusion of the mouth, depart almost necessarily, from their regular position. From this *ensemble* of influences result combinations varying ad infinitum, all assuming the type of more or less shocking deformities, interfering with the due performance of functions and predisposing to the premature loss of the very teeth themselves.

Among the cares to be bestowed, during the second dentition, upon the arrangement of permanent teeth, the extraction of deciduous or milk teeth is that which taxes most parents and dentists. It then appears obvious that, in order that the tooth of replacement may have room to assume its proper position, that nothing better could be done than to prepare that room in advance. But reason, and especially experience, modifying much this too hasty conclusion, two difficulties must at this juncture be carefully guarded against. The one consists in too early an extraction of the deciduous teeth, the other, in allowing them to remain beyond the necessary period.*

Experience and a considerate appreciation of the conditions of the dental system, can alone prevent the errors I have just pointed out, and fix the truly proper time for operating. I have ascertained

* We omit here the enumeration of cases illustrating the views of the author, in regard to the proper indications for extracting deciduous teeth, as they are fully summed up in the paragraphs which follow.

that more frequent and serious irregularities are caused by too early extraction, than by the opposite course. The deformities produced on account of having allowed deciduous teeth to remain too long a time in their situation, very frequently correct themselves, from the very growth and enlargement of the alveolar arch and of the whole maxillary. We should never forget that the crowns of teeth after their eruption no longer increase in size, while the bone which supports them remains for several years subject to the laws of development of the entire system. Whence there results ; that at the end of a certain time, some teeth which appeared never to be able to find sufficient room, finally arrange themselves in the most perfect order, much to the astonishment of parents and often dentists themselves. When, in the cases, which I believe more scarce and resulting from special dispositions, the deformity is more considerable and appears to have a tendency to become permanent, we can still avert it by such operations as I shall point out subsequently. We shall find that in almost every case we can remedy the difficulty, while the exaggerated separation of the teeth, or the loss of those which have been sacrificed, ordinary results of an opposite practice, usually leave no resource.

As a consequence of these principles, deciduous molars, even carious and painful, should not be extracted before the age of eight or nine, unless, in consequence of this condition of things, the health of the child should be positively disturbed. Heretofore, I have much applauded myself for temporizing, and having recourse to palliatives, local applications, sometimes plugging, or even cauterization. When the crown of those teeth has at last yielded to decay and has gradually broken entirely off, I still deem it useful to respect their roots. Their premature extraction would allow the first permanent molars appearing from the sixth to the seventh year, to encroach upon the room they occupy ; so that the bicuspid in their turn should, in order to find room, crowd forward as far as the lateral incisors, thus excluding the canine teeth from the circle. In such cases canine teeth have often been sacrificed by too thoughtless practitioners ; such mutilations should ever be avoided. We may indeed be at times compelled to extract a sound permanent tooth, but let not that be a canine, let us choose the bicuspid—the canine tooth will soon assume its proper place.

To sum up, a long practice has demonstrated to me that the dentist, as far as regards operations to be performed upon deciduous teeth, should observe the following rules as the most rational and the safest.

1st. So long as deciduous teeth remain firm, even when they begin to become loose, if no indication heralds the near apparition of the per-

manent teeth, nature should be abandoned to itself; there is no call for interference. The dentist is authorized to extract a deciduous tooth only when it has become so loose as to seem ready to drop out, and when a slight effort is sufficient to detach it.

2d. When in front of, or behind a milk tooth still firm or already loosened, appears a circumscribed reddish, somewhat painful tumefaction, under which a projecting hard body may sometimes be felt, it is proper to extract that tooth. That is the best means to prevent the deviation of the tooth endeavoring to come out. Consequently, if that tooth has already pierced the gum, we should perform the extraction so as to allow it to fall in the line before the deviation, become more considerable, presents more difficulty to be corrected.

3d. If one of the permanent teeth does not find in the space left by the deciduous one, room enough to locate itself properly, and in consequence of want of room begins to deviate, we may extract the contiguous milk tooth. But, far from hurrying to perform this operation, it should be retarded until the necessity for it be clearly demonstrated, and generally until one-half of the crown of the new tooth has pushed through the gum. It is only at this time that this tooth has exercised all its expansive force, that its position is certain, and that the removal of the contiguous deciduous tooth can be but advantageous.

These operations should follow the progress of the eruption of the teeth, beginning at the central incisors, and following with the lateral incisors and canines.

4th. In certain cases, after having sacrificed, accordingly with that which precede the deciduous canine to make room for the permanent lateral incisor, we may be obliged still to extract the first bicuspid which appears at nine years, to make room for the canine which comes at eleven. But it sometimes happens in opposition to the general rule, that the canine tooth erupts before the bicuspid; we should in this case extract the first deciduous molar. These operations should be performed as soon as the necessity for them is ascertained, because, as I have already stated, we have nothing to gain by waiting, and also because the extraction of those teeth is the easier as their roots are less fully developed.

5th. We meet, rather frequently, with children whose canines are well set but have appeared before the first bicuspid; in such cases the lateral incisor not finding room enough in the arch, deviates anteriorly or posteriorly; its extraction then becomes indispensable. The ulterior arrangement may be left to nature, which will direct the other teeth towards the vacancy, and thus fill up the breach.

During the whole period of life,* teeth have a manifest tendency to progress forward; and this tendency may, in many circumstances, be turned to good account, in regulating their arrangement. Especially, when a case similar to that which we have just mentioned is met with in the lower maxillary, my rule is always to extract the most anterior incisor, even if properly set. Its removal is less difficult and painful than that of the other, which, by the action of the tongue or with the aid of some of the arrangements mentioned in the following memoir, will assume the place of the extracted one.

6th. The final period of dentition, the eruption of the last permanent molars or *dentes sapientiæ*, frequently calls the attention of the dentist, and claims his assistance. It sometimes happens, especially in subjects who have passed the normal epoch for the cutting of those teeth, that their place being invaded by the second molars they find no room to arrange themselves. This obstacle is more frequent in the inferior than in the upper maxillary, on account of the coronoid apophysis forming at the extremity of the arch or bony boundary, which will not yield. Held back within the thickness of the bone, and endeavoring to escape from their place of concealment, the wisdom teeth under such circumstances are apt to cause dull, deep-seated pains radiating over the entire side of the dental arch, reaching the auricular and temporal regions and even extending to the whole side of the head and face, keeping up a continual state of suffering and irritation, ultimately felt by the general system and impairing the health of the patient. Almost invariably this state of things is attributed to any but the real cause, and the physician himself, when called in, frequently neglects the examination of parts, and is prone to attribute to the general and confuse influences of cold, dampness, rheumatic tendency, and various neuralgic affections, the origin and persistancy of the morbid phenomena presented.

The principal, and we may say, the only difficulty in such a case consists in making a correct diagnosis. Ascertaining the number of teeth, the original seat of pain, its vague character, its irregular nocturnal exacerbations, are so many circumstances which will assist the dentist. If, upon touching the gum behind the second molar, we find a particularly painful spot and considerable swelling, the gum should be deeply incised, and a probe inserted in the wound to feel the crown of the tooth endeavoring to cut its way through. The subsequent treatment must vary as either of the three following cases shall occur.

* This fact seems to us well worthy to be borne in mind, as in many cases great advantage may be derived from it.

If the tooth seems to have room for its development and has only been retarded by the toughness or the thickness of the integuments, the exploring incision should be enlarged, made crucial, a fragment of the gum over it may be cut out—nothing further need be done—time will effect the cure.

If the wisdom tooth cannot be accommodated between the second molar and the coronoid apophysis, it must be extracted if accessible to instruments.

Finally, if the wisdom tooth is not accessible to instruments, the second molar must be extracted; its place will soon be filled up by the new tooth. Generally, rational practice is also here preservative practice, to save both teeth if their position permits; in the contrary case, prefer to remove the *dentis sapientiae*, which, more frequently than the second molar, is liable to caries, and always less solid and less useful to mastication; such is the rule to be followed.

I cannot repeat too often a counsel justified by the preceding remarks: the mouth of children should be, during the period of second dentition, examined regularly at suitable intervals by a skilful dentist, who alone can appreciate the progress of dental eruption and rectify its irregularities at the proper time.

(To be continued.)

For the Dental News Letter.

REMOVING TEETH FROM PLATES.

MESSRS. JONES, WHITE & McCURDY—*Sirs*: In your July number of the Dental News Letter, I observe some suggestions of Mr. Magill, on the removal of teeth from plates. The following plan, which I adopted some time since, I propose for common use, namely:

Place round the teeth of the work to be unsoldered a rather thick coat of whiting so as to cover all the teeth, (but not the metal backs,) borax the solder you wish to flow; now place the work where it will heat slowly. (I use a piece of sheet-iron bent nearly round, with a piece on top with holes in it, and a spirit-lamp.) When the teeth are well heated, put them on a piece of pumice-stone or charcoal, (the same as for soldering,) apply your flame as if going to solder, holding the work in the left hand, holding the blow-pipe firmly with the mouth, and with the right hand a small iron probe; when the solder is melted, knock the teeth off the plate, with the probe, one by one; let them stand till cold. I have pursued this plan sometime and have never cracked a tooth.

Yours,

GEO. W. H. WHITAKER.

Bridgeton, July 22, 1853.

For the Dental News Letter.

AN ESSAY

On the Mutations of the Inferior Maxillary Bone, presented to the Faculty of the Philadelphia College of Dental Surgery, for the Degree of Doctor of Dental Surgery.—Session of 1853-4.

BY W. STORER HOW.

We make the following extract from this paper because of the intelligent manner in which the subject is treated, and because there seems to be so little attention paid to it in the cultivation of the deciduous teeth by the mass of the profession. From the many mal-formations of this organ, which seems to mark the present generation, there must be something wrong somewhere, and if by directing more attention to it in a practical way, anything can be learned to ameliorate the deformities to which it is liable, great good will be done to mankind. We see cases every day where the lower front teeth fall in front of the upper ones, which circumstance, when the back teeth are lost, or are worn down, not only renders the physiognomy unsightly, but makes the teeth useless for mastication. On account of the fact that this deformity is not very obvious in early life, and is not regarded as any more than a kind of defective development, which maturer years will remedy, it receives no attention, until it is too late to be changed. Hence, every dentist should regard it as a part of his duty to watch the tendency of this organ among his young patients, with a view to protect them against the unhappy results of mal-development or neglect. It is true that the too early extraction of the superior teeth, either deciduous or permanent, will also give rise to similar consequences, as though the inferior jaw did not form its proper angle. It is a common practice in the profession, after the dentist or the family have discovered that the second canine teeth have not sufficient room between the lateral incisors and the bicuspid, to fall into their proper place, by too early an extraction of the deciduous canines, or are presenting as "tusks," as they are called, to either extract them or the bicuspid, to make room, forgetting that the extraction of those teeth makes the arch that much shorter than it was designed by nature, and short enough, if a similar operation is not performed on the inferior maxillary, to allow the upper teeth eventually to fall inside of the lower ones. This will produce as unhappy a result as though the angle of the lower jaw was not properly formed; but the mutations of the lower jaw spoken of, are depending upon different circumstances, still the grasp of the upper teeth by the lower ones, will also prevent the normal changes of the lower jaw that would otherwise take place.

The most common cause of the failure of the lower jaw to form the angle which characterize that organ in adult life, is the early loss of the back teeth. There were three lady patients came under our care within a short time, all of one family, who had their lower back teeth extracted while young, and the first bicuspids of the upper jaw, to let the canines fall into their proper places, and in addition, lost some of the superior molars by bad operation of plugging. These three patients present deformities, by the upper teeth falling far inside of the lower ones, which they would pay any price to have altered or repaired if it were possible. They would not feel so much chagrin if they had submitted to the operations or advice of a cheap charlatan; but they sought the services of one whose high charges were regarded as a sufficient guarantee for his skill and scientific acquirements. We are treating a little daughter, at present, of an eminent physician of our city, who had been trusted away from home to visit a grandmother in a neighboring state, and while absent fell into the hands of an old-time dentist, who extracted all the inferior teeth back of the canines, including the first molars of the second set, which so completely altered the shape of the lower jaw, as to let the upper teeth fall inside of the lower ones. This derangement was observed by the father on her return home, who immediately sent her to us for treatment, expressing the greatest concern about the future prospects of the case. ED.

The physiological variations of this peculiar bone, develop some of the most remarkable phenomena that occur during the formative process of the human organism. No other bone, its fellow excepted, undergoes such various and idiosyncratic mutations.

Many of the changes which the jaw is found actually to undergo, are the results of accident and disease, to which the exercise of its functions, and its prominent and isolated condition expose it; and for many of these effects the exciting cause is to be found in the decay and loss of the teeth. In a normal and unbroken condition of the economy, the teeth are retained in the jaw until the period of old age, and no remarkable change takes place, except the slight approximation of the maxilla, resulting from the gradual abrasion of the crowns of the teeth by the mechanical act of mastication.

Unfortunately, such a condition is but rarely to be met with; and thus, health being the exception, disease the rule, many of the variations of the bone under consideration must be viewed as pathological effects. The teeth will be considered only in their immediate relations to the lower jaw, and the effects consequent upon their removal.

During the rudimentary development and growth of the inferior

maxillary, changes take place in its form and structure which have an important bearing upon its future existence as a necessary and peculiar bone.

Coincident with the modelling of the jaw, is the first indication of dental development which, according to Mr. Goodsir, may be observed as early as the sixth week of uterine existence, when the human embryo is scarcely an inch in length. On opening the cavity, which can hardly at this period be called a mouth, so rudimentary is its state, a groove is found, which groove is called the primary dental groove; in it the first stage of dental formation takes place. At the seventh week of uterine life a slight projection of the mucous membrane at the bottom of the groove, on each side of the arch, is observable, and which soon increases in size, and forms a papilla; this papilla, is the primary condition of the tooth pulp. In the course of a few more weeks the dental papilla of the temporary teeth are embraced within the jaw by the closing of the lips of the tubular groove, in which they were developed, when the provident maxilla immediately opens another groove for the formation of a "*corps du reserve*," the permanent teeth. These, in turn, are shut in, and descend behind the milk teeth, in which situation they are perfected in development, and from which they grow, making their appearance through the gums at a time when the necessities of the system require them. Thus we have the anomalous growth of one bone within another; the jaw acting as a matrix for the formation of another and lower order of being than itself. The process of cartilagization and ossification being completed, or nearly so, the bone makes its appearance, with its valuable freight carefully protected from external injury, and at once begins the active duties assigned to it.

It is during this period, infancy, that the changes of this organ become visible, and the results of the mysterious operations that have been going on in nature's laboratory begin to be manifest. Just when demanded by the growing wants of the individual, the teeth emerge from the gums and the alveolar, preceded by pains, which, like those of child birth, announce the importance of those whom they herald.

These organs exert a considerable influence, at this time, upon the conformation of the jaw, as is evidenced by the premature removal of a temporary tooth, when the alveolar arch will be observed to contract upon itself, or remain stationary at that point; this effect seems exclusively confined to the alveolar ridge, the base of the bone remaining in its original position, and continuing to increase in its normal ratio.

During, and after the eruption of the deciduous teeth, the jaw continues to increase in length and width. This last assertion seems abundantly and readily proven by the separation of the temporary incisors and canines, noticeable from the sixth to the eighth year; and a broadening and thickening of the anterior portion of it, is observable somewhat later in life, at about the termination of the period of childhood. An increase in the length of the lateral portions of the body of the bone, is easily shown by the presence of the permanent molars in a situation posterior to that occupied by the temporary molars, which at the time of their eruption are found to be placed at the base of the coronoid processes. The bone has palpably grown at this point, between the coronoid processes and the deciduous teeth.

Accretion of the body at the angles, and an increase in the length of perpendicularity of the rami, are none the less obvious and progressive. With the completion of second dentition, the rami are found to have reached a nearly vertical direction with the plane of the bone; and were the teeth to remain unaffected by disease, and free from accident, the angle would be but slightly changed, if at all, during adult life.

The base of the jaw in the child is arched a little upward, from the chin to the angles on either side, which makes the bone at the base of the coronoid processes narrower than at any other point. In the adult the bone is of nearly equal breadth throughout its entire lateral length, and in the aged, after the loss of the teeth, it becomes again arched, returning to nearly its original direction.

We come now to the accidental and pathological changes of the lower jaw, and in the consideration of these we shall omit such as result from irregular development of the teeth, and proceed to notice the more tangible ones induced by the loss of the dental organs.

The molar teeth being most frequently the subjects of disease, and consequently the first to be removed from the jaw, are, from their situation and size, the occasion of many variations in the conformation of maxilla. Add to these the loss of the bicuspid, which is the next step in the progress of decay among these organs, and the resulting change becomes most obvious. There being then no support for the angle of the jaw against the powerful traction of the masseter and temporal muscles during the act of mastication and deglutition, the bone, though strong and braced, is a living tissue and must yield.

The action of the muscles in producing this change, is apparent when the present conditions are examined. The under jaw, when closed upon

the upper, is in contact with it only at the anterior portion or chin, the condyle is articulated with the glenoid cavity, and between these extreme points there are two and most powerful muscles exerting great force upon a slightly elastic, but unsupported living tissue. The effects of such action are frequently witnessed in persons of a lean cadaverous look, having the plane of the lower jaw at an angle of about three hundred and ten with the glenoid cavity, and with the front teeth in direct antagonism with those of the upper jaw.

As the loss of the teeth is progressive from behind forward, the cuspidati of the upper jaw, and the incisors of the lower jaw being the last to leave, so this action of the muscles of the face continues through a long period; and when, through the loss of all the teeth, the jaws come fairly in contact, the inferior maxilla has become elongated to a degree that, with its natural arc, as a radius from the glenoid cavity, throws the symphysis menti quite beyond the anterior portion of the superior maxilla, even to a vertical line with the ala nasi.

The absorption and removal of the alveoli, after the extraction or loss of the teeth, is yet another of the many eccentricities of this bone, and the consequent change which it undergoes, renders it almost irreco gnizable in the smooth and rounded shape in which it is found. That both the inner and outer alveolar plates are absorbed upon the removal of the teeth, is a fact unquestionable. How this is effected, or in what manner nature works to accomplish such results is at present uncertain. Many efforts have been made, and many theories advanced, to account for the phenomena observed; but none appears fully successful. It may not, therefore, be too great presumption to offer some speculations upon the probable causes of these peculiar operations of the vital forces.

Absorption, like deposition, is effected by the direct agency of the blood-vessels. We need not go beyond the limits of the bone under consideration, for proof that osseous substance is deposited from the blood-vessels. In the development of the teeth we have a vascular pulp which deposits a granular substance, resulting in a dense hard tissue, dentine. It is equally demonstrable that absorption of bone is occasioned by vascularity in an adjoining tissue, the periosteum. Vascularity, or a determination of blood to a part, seems, therefore, to be an indispensable condition for the process either of accretion or absorption. The present state of physiological science will scarcely furnish us with a description of the character and action of the blood-vessels in producing two such diametrically opposite results; but can only refer us to the visible agent by which it apparently operates, which is

the periosteum. This membrane is common to the other bones of the system; but in the alveoli, its functions are peculiar and active upon the least irritation, the effects of which action are soon manifest.

Immediately upon completion of ossification of the enamel, the teeth commence to grow with greater rapidity, and as they conform to the general law of osseous accretion, and grow from the ends, which are the roots, the pressure thus given to the membranes surrounding the crowns, causes an increased vascularity in their tissue. That there is sufficient force developed by the accretion of these organs to occasion such vascular action, may be proven by the effects so often witnessed during the eruption of the *dentes sapientiæ*.

The action of these distended blood-vessels produce absorption of the alveolus in a direction opposite the pressive point, and prepares a way for the teeth by a process similar to that which takes place in abscess; the carious body surrounding the teeth, performing almost literally the part of the pyogenic membrane. These results are the same in both first and second dentition. During the latter operation, the pulps of the deciduous teeth, which are but reflections of the periodental membranes, are also affected, and, under the same influence as the surrounding periosteum, absorb the roots of their teeth.

The absorption of the alveoli appears to be affected by the periosteum also. The work commences immediately upon removal of the teeth, and is carried on in the same manner that the teeth grow; the bottoms of the sockets resembling the internal portions of the crowns and necks as the roots begin to be formed, being concavities lined with periosteum, which proceed to deposit osseous material over the whole internal surface of the cup, gradually filling it, and contracting its dimensions until the depression is completely obliterated. Superficial absorption also takes place, by similar means, and under the same governing and directing power, until the alveoli are nearly or quite removed. Upon the completion of absorption of these processes, the outer or anterior plate is found to have receded upon the inner plate, giving a backward and upward slope to the external surface of the bone, which, with the elevation resulting from the loss of the teeth and alveoli, greatly changes the relative position of the chin; and by this diminution in the length of the face, and the approximation of the nose and chin, we recognize the characteristic expression of the aged individual. The base of the jaw remains unchanged, it is the changes in the superposed structure which occasion its various conformations.

We give place to the following, from a welcome foreign correspondent, as it may prove useful to those who use folded gold. It is accompanied by drawings, but inasmuch as the description of the manipulations are so plain, we believe a published drawing would be needless.

J. D. W.

FOLDING GOLD FOIL.

If you consider the following method, which I have adopted for preparing gold leaf previous to inserting it, in stopping teeth, likely to *facilitate* the proper performance of the operation, it is at your service.

I have prepared the following instruments for the purpose. A few small glass rods, or knitting-needles will answer.

Two wheels or pinions, two and one-eighth inches in diameter, procured from a spinning mill. These are placed flat on a board, each turning on a wooden pin fastened in the board. *Third.* A piece of wood three and a half inches long by three-quarters of an inch square. In this a square groove is cut lengthwise, one-sixth of an inch deep and broad, with a slide four and a half inches long, made to fit in it. A thin slip of wood to cover the groove, the lid, with an end, made to project, and close one end of the groove, completes it.

The gold leaf to be used is rolled round the glass rod, which is then withdrawn, and the tube of gold leaf flattened, observing that the edge is in the centre.

It is then placed on its edge on the board, and passed between the pinions, which *crimp* it evenly, or a crimping board and roller will answer the same purpose.

It is then placed in the square groove, the lid placed on, and the slide pressed up against the gold, folds it up with perfect accuracy. The cavity in the tooth being prepared, the gold is placed in it, and with thin wedge-shaped stoppers introduced between the folds, firmly pressed to the sides of the cavity, more gold introduced, &c., till the stopping is completed. It takes about *one minute* so to prepare the gold leaf for the tooth.

La Fefis's work on the teeth, London, 1803. He says, page 12, speaking of a tooth causing pain from inflammation of the membrane lining the cavity: "I should recommend the drilling a hole at the neck of the tooth into the cavity in order to make an opening by which the matter might escape."

This, in some respects, resembles the operation lately introduced in America. I am, gentlemen, your obedient servant,

RICHARD BARNETT.

Belfast, Ireland.

For the Dental News Letter.

SPONGE GOLD.

MESSRS EDITORS:—In these days of progress in scientific research, in every department of art, that branch which we cultivate should not be neglected; but should have all the aids which an enlightened and liberal endeavor will give it for freedom and growth.

The enlarged knowledge of chemistry has been put under contribution to serve the dentist in the preparation of gold for filling teeth, by forming it into a spongy or crystalline mass, instead of foil.

The advantages claimed for it are, that it makes a solid and impermeable filling with very little force, that it can be placed one piece on the top of another until the cavity is full, or even more, than full, and will be thus welded by pressure so that it cannot be separated or disintegrated—that cavities can be successfully filled with it that are too weak to bear the pressure necessary to consolidate foil, and also that it can be used and secure a good result in those cases where it is impossible to keep the cavity dry.

The first offered to me for trial was prepared by White, of Utica, on the first of October, 1853; prior to using it, I had its quality tested by the highest authority for standard, the assayer of the Mint of the United States, who gave me, as the result of his tests, that there was 993 $\frac{1}{2}$ -1000ths pure gold; in this respect being equal to the foil in general use, and superior to most. My next step was to fill teeth in the hand, and after filling to split them open. I found the gold on the surface next the dentine, to my astonishment, nearly if not quite as hard as the surface which had received direct pressure from the instrument. I next tried filling the cavity with water, and packing the gold so as to force it out; this I did not think made so reliable a filling, and it was more difficult to give the same polish to the surface. To test the relative amount of gold which could be put in a given space, I filled a cylindrical cavity in a piece of ivory, so prepared, that being filled from the larger end of the tube, it could be forced out readily from the smaller; then, after filling the same as tightly as possible with foil, and weighing the two fillings, found the crystal filling the heavier by one-fifth. The first experiment in the mouth was the centre of an inferior molar, a very large cavity, and the margins thin; this was filled dry and very successfully, and in much less time than would have been required in the ordinary way.

No. 2. *Inferior molar, buccal surface, portion of the cavity under the free margin of the gum.*—This it was impossible to keep dry; and in three weeks the patient returned, with the complaint that the filling

had come out; found the lower portion had come out, removed the balance, and filled the cavity with foil. This failure I attributed to want of skill in the use of a new article.

No. 3. *Superior bicuspid*—nerves removed, filled the fangs and crown; the only difficulty here was the falling from the forceps of portions into the mouth. This filling has been inspected recently, and looks well.

No. 4. *Two superior incisors*.—Very large cavities and thin margins; both filled successfully, without cracking or injuring the front, and are as well now, four months after, as when they were finished.

No. 5. *Very large cavity in anterior face of superior molar, passing under the free margin of the gum, and a cavity in the posterior face of the bicuspid opposite*.—After the two fillings were placed and consolidated, it was found very difficult to file between them to leave a free passage, as the gold had joined at the upper part, and become as hard as iron or even harder.

These are only a few of the cases in which I have used it in the last five months. I do not think sufficient time has elapsed to prove incontestibly its usefulness, or its superiority over foil in those cases where the difficulty of using foil is considered insurmountable; nor do I think it will ever supercede the use of foil as a permanent filling. Some of its best qualities for the purpose of filling weak teeth, also make it very easy to fail in making a perfect filling. Pressure upon the surface will not press it out laterally, and by so doing force it closely to the walls of the cavity. Each piece adheres to that beneath it by direct packing; and so, the very property which constitutes its safety makes it liable to be imperfect around the edges of the filling. It is necessary to pack all around the edges and make them secure, and fill the centre last. A different kind of instrument is necessary, having a rough end, sharply cut or serrated; and with a little dexterity in its use the gold can be taken upon it and placed in the cavity without the use of forceps. There are three makers vying for excellence in its manufacture: White, of Utica, of which I have used three ounces; in the last portion perceive a great improvement in adhesiveness, and consider it quite equal to any I have seen. Watts, also of Utica, N. Y., a chemist by profession, has been very successful in the manufacture of the article, and his gold is perhaps equal to any offered; and Taft & Watt, of Zenia, Ohio. These gentlemen are practising dentists, and I am told intend to give the recipe to the profession when they have perfected it.

I look upon the introduction of this article into use in the profession

as an important era, in the hope that it will soon entirely take the place of all amalgams and succedaneums for filling teeth, substituting a pure for an impure article; as I am fully persuaded there are many gentlemen in the profession who have used amalgams, with the honest belief that they could do more and better for their patients' good with it, than with gold foil. If they can be persuaded to adopt it in lieu of the baser material, whether it ever supercedes the use of foil or not, the discoverers and manufacturers will be entitled to the thanks of the public and the profession.

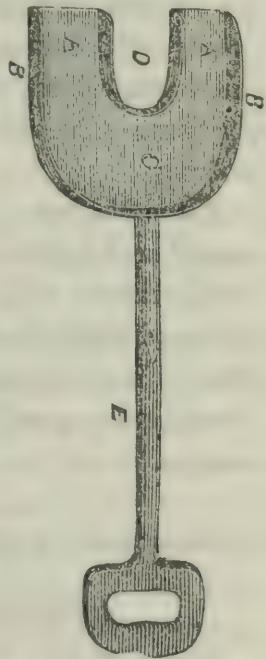
ELISHA TOWNSEND.

For the Dental News Letter.

NEW METHOD OF SOLDERING.

MESSRS. JONES, WHITE & McCURDY:—I here send you my mode for soldering full or partial sets of teeth, in order to avoid so much labor in the use of the blow-pipe, and if you think it worthy a place in the News Letter, insert it for the good of the profession.

Have a shovel made the size of a common shovel, differing a little as to the bowl, this must be wider, thus: bowl or outer rim at B, inside rim at A, place for charcoal at C, place for the batch at D, handle E. The rim, B B, is an inch and a quarter high, to retain a sufficient quantity of coals of fire to keep up the heat while soldering. The place for the batch at D, enclosed by a rim, A A, of the same height of the outer rim, is where the batch or plaster is poured upon the job to be soldered; this rim, A A, answers a twofold purpose, which nothing I see at the Colleges and Dental depots can do: 1st, to mould your batch in; 2d, to keep your work together while soldering; 3dly, to keep up the necessary heat, this rim, A A, must be fastened so that it may be taken out at pleasure, equi-distant from the points of the rim, B B, and fastened upon the base, C, by means of a rivet.



With a shovel of the kind I have attempted to describe, I can put my batch for soldering into it, and then run it into the fire and heat it until my solder is nearly ready to flow, having the shovel filled at C with coal, and all red-hot, shovel, batch and all; then with a common blow-pipe solder up a full set nearly as soon as a man could solder a common finger ring. I showed it to several of the profession in this

section, and they say they would not be without the use of it for a large sum; and, speaking from experience, I would not be without it for any reasonable consideration.

As ever,

NICK HACKWORTH.

Springhill, Marengo County, Ala.

For the Dental News Letter.

EDITORS DENTAL NEWS LETTER—*Gentlemen*:—At considerable intervals I find in your publication short statements of anomalies in dental development. Allow me to acquaint you with two deviations from the ordinary course of nature; one of which at least is so unique that I have never heard of its counterpart. About a year since a gentleman of twenty-three years, called on me to have several teeth filled; before taking the chair, he remarked that he yet had the teeth of first dentition and none others; adding, that his mother had frequently told him such was the fact. On examining his mouth, I found that the ten anterior teeth in each jaw were of a size somewhat larger than the average of deciduous teeth, while otherwise they partook decidedly of the characteristics of permanent teeth, the bicusps being in their proper positions. The molars were of about the average size of permanent molars.

The other case was that of a child of two years, whose right lower central and lateral incisors were perfectly united, presenting an even labial surface; while a scarce perceptible indentation in the cutting edge indicated where the approximal surfaces should have been. An extract from Talma's work, published in the last, (No. 1, Vol. VII.) Dental News Letter, speaks of very rarely occurring similar cases in permanent incisors.

Very respectfully, at your service,

H. GERHART, Dentist.

Lewisburg, Pa., November 7th, 1853,

HARDENING CAST-STEEL FOR CUTTING.

Kieser, of Issy, in Switzerland, prepares admirably hardened razors, pen-knives, &c., from English cast-steel, by plunging the blades, at a dark, cherry-red heat, into a bath made of fourteen parts, by measure, of yellow rosin in fine powder, two parts of fish oil, and one part hot melted tallow; they are then allowed to cool perfectly, and without wiping them, are reheated to a low red heat, and immersed in water in the usual way of tempering such articles. The edge of the blade treated in this manner is said to be very fine, and the hardening more uniformly done than by any other process.—*London Artisan*.

For the Dental News Letter.

DENTAL PATENTS.

GENTLEMEN :—Under the above caption an article appeared in the October number of "The News Letter," for a reply to which I have in vain looked through the last number ; and, as the assumptions therein made seem to me incorrect and really inadmissible, please permit a few words in defence of a worthy class of men, than whom none are more entitled to our regard, respect, praise and gratitude.

Since Whitney, Fulton and Arkwright have lived, it seems almost superfluous to eulogize inventors as a class. In the words of another : "When their wonderful discoveries, and the great results to individuals and to nations which have followed from them, are contemplated, it is not difficult to realize the value of the splendid gifts which science, through their instrumentality, has bestowed upon man, nor to estimate the claims which the true inventor has upon society. He may truly be called the pioneer of civilization, the explorer of the unknown world of science and art." That any other opinion should prevail ; that any attempt, however feeble, should be made to filch from him his well-earned meed of fame or profit, does indeed seem "passing strange."

But to our article. The writer's *radical* error consists in this assumption :

"The natural right that any man has in any discovery he may make in art or science, *ONLY* entitles him to *conceal* and use, as best he may, his invention for his own benefit."

The mistake is a grave one ; for it affects the original, inalienable right of proprietorship, of which every individual is conscious. Does your natural right in personal property which you possess, allow you only to hide, or use in secret, that property, lest the first strong or cunning hand which coverts possession shall rob you of it ? On the contrary, is it not your privilege to use that property at home and abroad, to use it openly and freely, and to defend yourself by force of arms, when necessary, from any attempt unlawfully to dispossess you ? Indubitably, yes. To this latter position no sane man will offer other answer. And this property may be the horse which you have bought, the grain which you have grown, or the implement fashioned by your hand. No *lesser* right has the *inventor* to the product of his mental toil ; no lesser wrong do you perpetrate upon him when you steal the subtle, intangible principle of his discovery, than when you rob him of the tangible levers, pulleys and wheels, which, combined, are the embodiment of that principle. This right is as sacred as any for which our fathers ever fought, or in defence of which you to-day would

fight. Nor is this fact affected by the statement that "no decision has ever yet been made in the United States by which the right to a discovery or invention has been protected by damages against infringement by any other form of legal remedy than that provided by the *patent laws*,"—for upon this very principle of the inviolability of private property, is based the law which provides that property in patent rights shall pass, after a term of years, into possession of the public—as we shall see more fully hereafter. Upon this point I quote from Mr. Burke, late Commissioner of Patents, in his Report for 1845 : "The fruits of his genius and his toil are constantly liable to be wrested from him by the unscrupulous and dishonest, who, too often countenanced by public opinion, are apt to regard the rights of the inventor as the fruits of a monopoly which it is a merit, instead of a wrong, to break down and destroy ; and the more valuable the invention the more liable is the patentee to this species of invasion and injury, as there is more inducement held out to its perpetration. The stealthy thief and the midnight burglar are justly regarded as the pests and enemies of society, and are therefore seized and punished by penalties severe in proportion to the turpitude of their crimes ; yet their depredations are committed on things which are made by law the subjects of property, and which may be acquired by industry or by purchase. The right of the inventor to his invention, in the judgment of all enlightened minds, cannot but be viewed as far more sacred than mere things of property. It is a mental creation, or rather the discovery of a principal or thing never before known to the world, and may be, as very many inventions have been, productive of countless blessings to the human family, affecting their destinies as individuals and as communities, through all time." As a MAN, then, holding property in the glorious realm of thought, the inventor stands before you to be judged fairly, as should be other men.

Again, the writer thus states his position :

"The law, looking to the justice due to the public as carefully as to the rights of particular individuals, leaves discoverers to their own unassisted resources for making for themselves an absolute and exclusive property of their inventions, and interposes, *only* for the benefit of *the public*, its assurance of a monopoly for such a period of time as it is supposed may operate as an inducement to reveal the secret at once for general use."

Not so. This is no contract in which the inventor lies, like a turtle in its shell, until coaxed by governmental bounty, to put out its head, soon to be cut off, while a kind public, in the background, await the

result, to parcel out his body for their individual uses. More noble, far higher, is the position of government—for it assumes a voluntary *protectorate* of the *rights* of individuals in their property. It recognizes the absolute ownership of his invention by the inventor, and proposes to protect him in the exclusive right of that property, but says to him, “After you shall have exclusively used this property for the term of fourteen or twenty-one years, and thus been *remunerated* in advance, we, for the benefit of the body politic, and in exercise of the power given us to legislate for the *general* welfare, claim the same for public use.” To this effect an able writer has said: “The necessities of the government are, in certain emergencies, supreme over the rights of its citizens, and, by virtue of its right of eminent domain, it can take the property of its citizens for the public use. But in all civilized countries, in which the immutable principles of morality and justice prevail, governments never take the property of their citizens and appropriate it to their own use without first giving an adequate compensation for it.” Thus is clearly stated the position of the inventor. Though he does “at once reveal the secret,” it is not for “general use” until the fourteen years have passed. He may refuse to sell rights; may choose to manufacture and dole out machines at the slowest rate—it is his *right* so to do, and government acknowledges it. When the writer assumed that “there is no legal recognition of any such absolute property in any invention,” he supported directly, or by inference, an error. The principle is old as the hills and changeless as truth. As in this world of continents and islands, men claim their discoveries, although fellow-voyagers may next day come from the same or an opposite direction, and as truly discover the same land—so in the world of science and art, inventors are the bold navigators who steer out into unknown oceans, and ungenerous is that man who denies to them every right belonging to discoverers.

But hear our author again :

“The friends of dental patents have a marked affection for the shelter which they fancy is afforded them by the *higher* and *more honorable* warranty of copyright, than that which can be drawn from the more mechanical and less professional example of patent rights.”

What arrant heresy is this ! Are Fulton, Whitney, Watt and Arkwright protected by *patents* for their world-blessing inventions, less to be respected than Dickens, Bulwer, Prescott and Irving, vending their *copyrighted* books ? Truly our author deserves a “patent” for *his* discovery that the true aristocracy of intellect consists in moulding tropes and metaphors with a goose-quill, while *plebian* minds

may forge from steel and iron the snorting steeds with which we conquer time and space, or the jennies which spin clothing for a world. The *distinction* here is without any corresponding essential *difference* in principle. The right of the author to his book is at once acknowledged ; but, owing to the flexibility of language allowing easy evasion, and other causes operating to the disadvantage of authors, their patents (called copyrights) are extended over more time before the public claims their work. As a general rule, the necessity of a book for public use, its immediate public utility and capacity for practical application, are not so readily discovered as are the advantages of some machine, the direct operation of which every man can *see*, and the *money-making* properties of which he comprehends at a glance. The book may be very good, but sell slowly—the machine, if good, soon comes into general use, for it is the shorter way of coining *dimes*. The readiness with which the facts and theories of a book may be borrowed or remodelled, materially affects the early necessity of taking it from the individual and passing it over to government. The gentleman thinks that his relations are very different toward the author who brings to him a copyrighted book, and the inventor who brings to him a patented invention ; but I do not so see the difference. If “Professor Harris, Arthur or Austen” benefits me by authorship, it is after I have paid two, four or six dollars for his patented *book*—price being regulated by security of copyright, conscience of publisher, demand in the market, etc. If Mr. Dubbs benefits me by invention, it is after I have paid, three, four, or five dollars for his patented *forcep*—price being regulated as above. Now, wherein consists the difference but in a *name* ? In each case *mind* is the craftsman—the *commodities* offered for sale only differ. Whether the man spend years in preparing a useful *treatise*, or in perfecting a useful *machine*, he is alike entitled to our regard, alike proprietor of the result of such labor ; and in the latter mode *may* as greatly benefit his kind as in the former. The merit of the individual, then, consists in the value of his book, the utility of his invention, and is not settled in advance by any misconceived title of “honorab^{le}” or dishonorable applied to his department of mental labor.

Again, the writer says :—“No man has any such right, in natural justice and reason, to the monopoly which a patent confers upon him.” This I admit ; but it is not necessary, because he has not precisely *such* a right to deny him every right. Benefits and privileges under the patent, which may interfere with the rights of others, are not claimed as the natural rights of the patentee ; they are merely the *mode*

of remuneration adopted by government. The *right* consists in *propriety* of invention, and all the difficulties attending the protection of that right consists in the subtlety of mind, the creative energy; because, between claimants for originality, scarce any proof at times can be offered, except *priority of date* in the use or publication of an invention. The "natural right" is not merely "to keep the secret," but to retain the exclusive use of inventions. Here, however, the individual is powerless against society, for want of physical force, and government steps in to protect him, just as to protect what the law calls "personal property." The *right* of the *inventor* is one thing—the *policy* of *government* in inducing him to reveal his secret, and in recognizing priority of date as a tenable claim, is quite another thing.

These general principles are as well applicable *in* our profession as *out* of it, only being modified by the etiquette which curbs selfishness and does generous deference to others' rights and claims to consideration. But here our friend institutes an absolute rule, covering all cases; look at its effect. Suppose you decide that professional etiquette requires every inventor to *give* to universal, unrestricted use, every invention important to us, how are you to remunerate him for his nights of intense thought, his days of incessant labor, his outlay of time and money on experiments? Professional *regard* and *thanks*, perhaps a *medal* or *diploma* from some society! In their place, these are well enough; but many a man has found them poor substitutes for bread and meat, when clamorous mouths thronged around him pleading vainly for the staff of life. Accidental discoveries, minor improvements, useful suggestions, will of course always be given by the free hand of professional pride, and some generous minds will toil for no other meed than just the pleasure of giving. To such, all praise. I only argue against this attempt to force into a false position the men whose time is money—who, after spending much time and labor upon inventions, cannot *afford*, with princely grace, to present them gratis to professional drones, who willingly fatten on the product of other men's toil. Nor do I see more beauty or propriety in an attempt to build a *professional* aristocracy on so false a basis, than in an attempt to erect a *social* aristocracy on the basis of money or pedigree.

As professional *policy*, the principle is objectionable. Far better imitate the policy of government, and say to inventors, "Come, gentlemen, labor with your heads, carve with your hands; we honor your efforts and will willingly give you all practicable aid in money and reputation," than to say: "Come, brothers, strive, delve, freely spend your thoughts, your money, and your time; you cannot do too much

to advance our honorable profession, for we are ready to *take*, on short notice, ALL that you can discover or construct." No, no! Let us rather offer *premiums* for progress; let us draw in closer bonds the brotherhood of genius; let us do equal honor to him who carves his thought in wood and steel, and him who writes his thought on paper, for each is a noble worker in the cause of professional advancement; each lays his offering on the shrine of universal good.

W. E. MAGILL.

Erie, Pennsylvania.

We select the following able paper from the London Lancet, March, 1854, on *some principle diseases of the eye*, delivered at Guy's Hospital, by John F. France, Esq., surgeon to the eye infirmary. The Dental Surgeon, as well as the practitioner of general medicine, ought to be well acquainted with the principle diseases of the eye, not only because the diseases of the teeth give rise to symptoms in the regions of the eyes, which are often mistaken for diseases of those organs, but on account of an ignorance of some of the usually exciting causes of the diseases of the eye, the dentist's pursuit is as liable to injure his vision perhaps, as any other avocation. Many dentists, we know, have impaired their vision by operating in too strong a light, believing that the more light they can bring to bear upon an object, the better; this is not true. After there is sufficient light to place the eye in an easy or normal condition, that is to say, that no portion of the eye or its appendages are unduly taxed, or put into a state of distress, a bland light, so to speak, not too much or too little, is important, and that should be permanent. A vacillating light, therefore, is highly injurious. A dentist plugged a tooth for us fifteen years ago with the chair placed in such a position as to let the sun shine into our mouth. He left the profession and went to the practice of medicine on account of the failure of his vision. We could cite a number of cases of injured sight by similar practices, if they were needed.

J. D. W.

LECTURE X.

Cataract: definition; various modes of origin; subjective and objective symptoms; different seats—the lens and the capsule; varieties of appearance indicating consistence of the lenticular form; age, a guide in determining consistence; diagnosis between true and spurious cataract, and between the former and glaucoma; catoptrical examination; prognosis; treatment—palliative, and by operation.

Cataract consists in opacity of the crystalline lens, of its capsule, or of both, and is designated lenticular, capsular, or capsulo-lenticular,

accordingly. Lenticular usually co-exists with capsular cataract, but when the opacity of the anterior capsule is complete, of course this circumstance can only be inferred, and does not admit of proof until an operation is undertaken. On the other hand, lenticular cataract frequently occurs without any (or with very slight) opacity of the anterior capsule. The exact nature of the change upon which this disease ordinarily depends, is not yet fully ascertained. Very slight alteration, however, in the relative condition of the component molecules must suffice for its production, since it is sometimes established in the course of a few hours. Some have conjectured that it is the result of inflammation; but the supposition rests upon narrow grounds, and derives but little support from the habits of the disease, while the most expert observers with the microscope altogether reject the idea of the crystalline being vascular. One form of capsular cataract (which has already come under notice in the lectures on iritis) is indeed produced by inflammation; this is commonly known as spurious or false, consisting merely of fibrinous effusion upon the exterior capsule, and is altogether distinct from the true. In many cases there would appear a greater analogy between this disease and those degenerations of tissue which occur in the arterial, ligamentous, and other fibrous structures in advancing years.

Any circumstance tending to depress the constitutional powers seems to predispose to the formation of cataract. Hence, it is most prone to arise in the latter periods of life, and in some cases follows the privation of sufficient nourishment, and mental disquietude. It is particularly apt to arise after habitual over-exertion of the organs of vision. Again, the complaint is often congenital, when it probably depends on an arrest of development, the rather that these cases not uncommonly exhibit the tripartite division of the lens strongly marked. The disease is often idiopathic, occurring independently of any assignable cause, the other textures of the eye being quite healthy, and the constitution sound. Occasionally it is the consequence of direct injury to the crystalline, a fork, a bramble, or some other pointed body having penetrated the globe, and wounded the lens itself. These are the cases in which the opacity is so exceedingly rapid in advance.

The principal subjective symptom is impairment of vision, which in the early stage manifests itself under several modifications. Sometimes the patient perceives a mist gradually forming between himself and external objects; sometimes objects seem multiplied; sometimes broken or distorted; generally luminous bodies appear surrounded by a halo. Usually, but with occasional exceptions, vision is found most

impaired in the bright light of noonday, or of a ball-room, among whitened buildings, when facing a window, and so forth. In subdued light, as that of early morning, or evening, and with the back turned to the source of illumination, vision is materially better. As the disease progresses, these little circumstances are no longer noticed. The patient then is conscious of a continual impediment to vision; he still recognizes the presence or absence of light, the position of a window, the situation of a candle, the interception of its rays by the hand, or the shadow of a passer-by between himself and the sunshine. But useful vision is annihilated; he cannot pursue his business or recreation, know the cheering countenance of a friend, or shun an impending danger.

In the early stage it often requires careful examination to perceive the local indications of the complaint; but when more fully formed, the disease can scarcely be overlooked. The readiness with which an incipient cataract is seen, depends in some measure upon the form in which it arises. For when, as is frequently the case, the circumference of the lens is first affected, the iris hides the opacity from view unless the pupil be dilated. Again, the color influences the facility of detection; for if whitish it is necessarily much sooner evident than if dark-colored.

With respect to capsular cataract, it may be stated, as a general rule, that the longer it has been formed the more densely opaque and white does it appear, resembling at length the aspect of egg-shell. It is sometimes very partial, occurring in mere spots or specks. Whether partial or universal, it is seen in immediate proximity to the margin of the iris, almost as if on the same plane with that membrane: hence, when light falls as from a side-window obliquely upon the eye, the edge of the iris can cast but a very narrow shadow upon the opaque surface. The appearance of radii within the pupil, glistening like talc, is no longer deemed an indication of the capsular form. Mr. Tyrrel was, I believe, the first to record the observation that this appearance may be recognized on the surface of some lenticular cataracts after extraction; he hence concluded that the surface of the crystalline (not its capsule) is the seat of the glistening change—a conclusion I am able to corroborate from personal observation of the same fact.

Lenticular cataract exhibits more deeply seated opacity than capsular, and often an obvious interval exists between it and the margin of the iris; the shadow thrown upon it by the iris, when light falls obliquely, is consequently broader; moreover, it displays several varieties in formation. Sometimes it commences in the centre of the crystalline; sometimes deep raddii shoot inwards from the circumference; some-

times the opacity is pretty uniformly diffused and resembles opal; in other cases it is of darker color and concentrated at the nucleus of the lens; sometimes the cataract unequivocally exceeds the normal crystalline in bulk; sometimes it is smaller; sometimes so shrunk that the capsule, which is in these cases commonly opaque too, is almost empty. Thus, lenticular cataract varies in aspect according to its uniform or partial diffusion, its magnitude and color. These points are important, because, in a great measure, from noting them we judge what form of the disease is submitted to examination, and decide which operation is best adapted to any individual case.

The consistence of lenticular cataracts ranges from that of a milky fluid to that of a densely solid substance, the majority in this respect resembling firm butter, or soft cheese. Many, however, are much harder than this, and in some rare cases such an amount of calcareous deposit occurs as to entitle the change to be considered ossific. I have myself witnessed the extremes of these forms. On the one hand, I have known the substance flow out like milk, on puncture of its capsule; and, on the other, have found it of bony hardness. Dr. Rees found both carbonate and phosphate of lime entering largely into the composition of a cataract of the latter description, which he kindly examined for me, though neither substance, according to the analyses of Berzelius and Simon, is an ingredient of the healthy lens.

The history of a case assists us in determining the consistence when the external characters are doubtful. In infants and children it is invariably soft. Elderly persons, though by no means exempt from soft, yet habitually have the hard variety. I have known a cataract partly fluid in an elderly person, but such cases are exceptional; it is not unusual, however, to find a comparatively soft exterior enclosing a firm nucleus. The more slow a cataract is in forming, and the longer it has existed, the greater is the probability of its consistence being hard. When, therefore, a middle-aged or elderly person is the subject of the disease which has taken years in extinguishing useful vision, the strong presumption is in favor of the lens proving hard. This *primâ facie* probability is corroborated by the body exhibiting an amber-brownish or dark color, being small, and consequently, instead of pressing forward against the pupillary margin, retiring to some appreciable distance from it. In a word, the more or less advanced age of the patient, the tardy formation of the cataract, the darkness of its color, and the smallness of its size, constitute the main indications of its being hard. The opposite quality is inferred from the opposite conditions. The patient being infantile or youthful is at once conclu-

sive as to the soft consistence of an opaque lens : while its rapid formation ; its light, opalescent aspect ; its large size, as indicated by close approach to the pupillary margin, perhaps even pressing forward the iris, rendering the anterior surface of that membrane slightly convex, and displaying in relief the black ring of urea at its pupillary border ; all concur to establish the same fact.

There are two principal morbid states with which this is apt to be confounded. The first is spurious or false cataract. This, as we have seen, consists of organized adhesive matter spread across the area of the pupil, and adhering to the capsule of the lens. It lies in front of the latter, and exactly on the same plane with the iris itself, with the pupillary margin of which it is continuous. In these points its aspect differs from that of the true lenticular or capsular disease ; besides that the edge of the pupil being necessarily fixed from permanent adhesions, its contractility is nearly abolished, while true cataract does not impair the mobility of the pupil. The second morbid state alluded to is amaurosis with glaucoma. The points of similarity between the two diseases are these : that in both there is impaired vision, usually of gradual character ; in both, when the eye is inspected, an appearance of opacity is discoverable within the pupil ; both are complaints prone to attack persons in the decline of life ; both may exist without any proof of disease, inflammatory or otherwise, in the superficial parts of the eye. The marks of distinction are as follows : First, that the seat of glaucoma, (except in very advanced cases, in which the lens itself partakes in discoloration,) is exclusively posterior to the lens. Hence, while the opacity of cataract is perceptible in every direction from which the pupil, when artificially dilated, can be viewed, the discoloration of glaucoma ceases to be seen in an oblique view, for the iris then intervenes, and hides most of the fundus of the eye from sight. Cataract is therefore constantly visible, glaucoma mainly in a front view ; the former is a distinct opacity, glaucoma does not exceed a discoloration. Again, as in uncomplicated cataract, the opacity is the only impediment to vision, that opacity of necessity bears, as was before stated, a direct proportion to the amount of impairment of vision. When the opacity is slight, the affection of vision is slight also, and so on ; but in amaurosis with glaucoma, there is no correspondence between the quasi opacity and the impairment of vision, for this latter is dependent, not upon that change, but upon affection of the retina : and hence, though the glaucoma is slight, vision may be almost or totally annihilated.

Again, simple cataract does not lessen the activity of the pupil, is not ushered in with pain, or muscæ, or luminous flashes, and may exist as a single affection, uncombined with any other alteration whatever in the eye; while amaurosis is always accompanied with inactivity, generally with dilation of the pupil, and frequently with distinct evidence of structural disease.

Of late years we have acquired the additional and valuable means of diagnosis, commonly known as the catoptrical test—a method recommended by the late Professor Sanson. The phenomena upon which this test is founded were first described by Purkinje, in 1823, in a "*Commentatio de examine Physiologico Organi Visus*;" but the credit of applying the facts so discovered to the diagnosis of disease is, I believe, due to the French surgeon just named. The transparent media of the healthy eye do not, as is generally supposed, allow all the rays of light which impinges upon them to pass through, but at each surface penetrated by the majority of those rays some are arrested. The surfaces alluded to are, of course, those of the cornea, of the anterior, and of the posterior capsules of the lens. At each of these points a certain reflection takes place, to which, no doubt, the remarkable brilliancy of a healthy eye is greatly attributable. When, therefore, a luminous body, as a candle, is held in front of the eye, three several reflections or images of it are created. The most superficial of these is familiar to every body, but the deeper ones are readily perceptible only to an observer accustomed to inspect them. The image formed upon the cornea is in all cases, where that structure is sound, distinct, upright and clear, and not too small to attract observation immediately when looked for. The second image, which is produced upon the anterior capsule, is ill-defined, pale, and, compared with that seen upon the cornea, like lunar contrasted with solar beams; it is also upright. If the candle is moved towards the right or left, these two images move in the same direction; if it is elevated or depressed, they accurately follow the same course. But the deepest image, formed upon the posterior capsule, differs in several respects widely from the others. Being created by a concave surface, it is, consequently, on a well-known principle in optics, inverted; and from the same cause, it travels in just the contrary direction to that of the luminous object it represents. It is much more minute than either of the others, and appears to be more superficial than the image afforded by the anterior capsule. Hence, when the candle is moved, and the two erect images follow its motion, the deepest or inverted one seems to pass between them.

ABSORPTION OF DENTINE.

BY J. D. WHITE, M. D., D. D. S.

This phenomenon, it would seem, is as yet shrouded in mystery, and it has been generally, too, if not always regarded as peculiar to the fangs of the deciduous teeth. As long since as fifteen years we met with specimens of absorption of the roots, as well as of the internal walls of adult teeth, which led us to reflect upon this strange process, but must confess that we have not yet arrived at any satisfactory conclusion. Authors generally agree that the absorption of the fangs of the deciduous teeth is due, either to pressure exerted by the approach of the permanent set, or by a withdrawal of nutrition from them, on account of the obliteration of the deciduous blood-vessels. With regard to the first position, we do not think it fair to presume that a mechanical force is exerted by one organ upon another, except so far as position is concerned in favoring or retarding the development of certain organs of the body; and as to the second, we have no facts at all to support it for a moment. That the arteries cease to exist when the deciduous teeth are lost may be true, but they become useless when the teeth are removed; they do not shrink away anticipating a loss of the teeth. The ductus arteriosus does not shrink away in view of a change in the foetal circulation, but ceases to exist on account of a change in the vital economy. An increased vital act in an organ invites a determination of blood to it; so it would seem with regard to the absorption of the deciduous teeth, even though the increased afflux of blood to them would seem to favor their growth, instead of their absorption; but absorption, by a deprivation of nutrition, or as a pathological condition, and absorption as a vital or physiological function, we think are very different processes.

Mr. Tomes remarks: "How the absorption of the fangs of the milk teeth is affected—what is the nature of the process, or whether the process is really an active force exercised upon the tooth by adjoining parts, or inherent in the tooth, remains at present to be determined." "It is certain that if a milk tooth be dead, the fang is not absorbed. * * * * On removing a milk tooth, where the whole of the fang has been removed, we find the crown excavated, and the excavation occupied by an unattached vascular papilla."

This excavation of the crowns of the deciduous teeth corroborates our own observation. We have many specimens of this in our possession at the present time, and for a long time believed we were the first to have made the discovery, never having met with a dentist who

had seen them. We saw them first noticed in the above cited author, and by Dr. Ashburner. We were glad to find that other operators had met with similar phenomena. The excavation in the crowns of the teeth are filled up by a vascular papilla, but not *unattached*, as observed by Mr. Tomes. We have several specimens where the vascular mass has been fastened to a thread and suspended in alcohol for a long time, and the crown still remains adherent. In every instance that we have met with such cases, we have observed that it required some mechanical force to separate the vascular mass from the dentine. Absorption of the dentine of an adult tooth may take place as a disease, but we cannot regard the absorption of the roots and crowns of the milk teeth as such; still the one looks very like the other.

Dr. Ashburner, according to Mr. Tomes, regards the absorption of the deciduous fangs as due to a special organ. This may be true, but it is hard to understand what could give rise to the development of this new organ. We can understand how an organ may alter its function, and by so doing change the structure of a part, so that it will present different phenomena. If this process was only confined to the deciduous teeth, we might regard it as due to such new organ, and believe that it was only a part of the programme of change or development through which those organs were destined to pass; but when the same process, or apparently the same, occasionally attacks the adult teeth, we lose the rationale. The explanation which we have to give may not be true, as our observations have not been such as to settle it in our own minds beyond a cavil, but we will regard it as good until a better is given. We know that the papilla of a tooth is a very vascular mass, and that it commences first to deposit dentine upon its surface, layer by layer, on granule after granule, from without inwards until there is only a rudiment of this substance left, occupying a narrow canal running through nearly the whole length of the dentine or tooth, from which the dentine which it has formed is to receive its future nutrition. This rudiment we term the dental pulp. Now, as the calciferous formation is going on within this papillary mass it tends to obliterate the size of the blood-vessels, so much as to render them too small to be seen, either by the naked eye or the glass, and not being large enough to carry red blood, escape detection, but still carry the liquor sanguineous, as other white tissues, and which is sufficient to nourish the structure. From this view of the case, we regard the blood-vessels as still existing in the dentine of the tooth, but rudimentary, the same as they existed in the papilla, and if from any cause a preternatural accumulation of blood takes place in the

capillary vessels of the pulp, absorption of the calciferous formations set in, and as fast as the dentine is absorbed the blood-vessels regain their former size, admit of the re-entrance of the red globules of the blood, and we have here presented to the eye, if not in fact, a re-establishment of a substance, to all intents and purposes, as that of the former papilla. As this is an important point upon which an interesting feature of practice occasionally turns, we would solicit an inquiry into it by the profession.

THE DENTAL NEWS LETTER.

APRIL, 1854.

To Correspondents.—Will our numerous correspondents please to observe, invariably, when writing for the press, to write upon but one side of the paper, and in a legible hand.

COMMENCEMENT OF "PHILADELPHIA DENTAL COLLEGE."

This flourishing institution held its second annual commencement on the 28th of February, 1854, at the Musical Fund Hall, Locust Street. The Hall was crowded by a most intelligent audience. The proceedings were interesting, and interspersed with music from a band engaged for the occasion. The able valedictory address was delivered by Prof. Elisha Townsend. After prayer, Prof. Ely Parry, in the absence of the president of the college, the Hon. Ely K. Price, Esq., came forward and conferred the degree of Doctor of Dental Surgery upon the following named gentlemen:—Horton Baily, Pa.; William Calvert, Pa.; Firman Coar, Pa.; Alexander G. Coffin, Mass.; E. H. Cogburn, Miss.; Benjamin Cohen, Germany; Samuel W. Frazer, Pa.; William Gorges, Pa.; Eri W. Haines, Del.; W. Storer How, Me.; Louis Jack, Pa.; Bernard J. Laughlin, Pa.; C. Newlin Pierce, Pa.; Isaiah Price, Pa.; David Roberts, Pa.; John M. Rothrock, N. C.; John R. Rubencame, Pa.; Thomas H. Shaw, Ala.; James Truman, Pa.

After a benediction the audience was dismissed, and the graduates, the faculty, and invited guests, in number about one hundred and fifty, repaired to the spacious rooms of Mr. Parkinson, Chestnut Street, where a splendid collation was served up on *tee-total* principles. It seemed that the whole dental profession of Philadelphia turned out in mass, to compliment the successful termination of the second session of this institution. There were also a number of eminent members of the profession from a distance, present.

The class of the session consisted of thirty four matriculants, and nineteen graduates. The honorary degree was conferred upon the following named gentlemen:—John Tomes, London; J. G. Koehler, Schuylkill Haven, Pa.; P. Beck Goddard, Philadelphia; Chapin A. Harris, Baltimore; F. M. Dixon, Philadelphia; Charles Moore, Pottstown, Pa.; J. R. McCurdy, Philadelphia.

The appended statement, taken from the records of the College, shows that all the important operations, usually coming in the range of ordinary practice, have been demonstrated, for which no charge is made.

Cases presented—Male patients,	55
Female “	416
	<hr/>
	471

For whom have been performed the following operations, viz;—

Fillings,	385
Treatment of pulp by extirpation,	29
Extractions of teeth,	231
Pivot teeth set,	4
Treatment of superficial caries, (cases,)	9
Removal of salivary calculus, “	19
Insertion of entire sets, “	3
Partial sets, “	2
Treatment of irregularities, “	7
	<hr/>
Total,	715

Sponge Gold.—We have been using this article, and have as yet found no two specimens from the same manufacturer to work alike; hence we think the opinions expressed about the preference for this or that maker's preparation, is somewhat hasty. If we were to decide upon one specimen, we would say it was all good; but if we were to try another, we would say it was all useless. Some specimens when they are damp will not work well, and others would seem to work better with water. Too much pressure appears to crush it to powder, and if there is not much pressure used it will not become hard or weld; should we use much pressure therefore, who will say? One piece, rolled a little in the fingers, will not adhere to another piece. Must a plug be commenced and finished before it becomes wet, to secure good work? Pray give us more facts before opinions. J. D. W.

Saliva Pump.—We have been shown an ingenious contrivance for relieving the mouth of a super-abundance of saliva, which is so annoying to the operator when filling lower molars—designed by Professor Arthur.

It consists of a glass tube, of suitable shape and size, with a bulb in the centre, and a gum elastic bulb at the end. It operates by compressing the gum bulb, thus driving out the air, and while in this compressed state the tube is inserted in the mouth, when the pressure on the bulb is relieved, thus forming a vacuum, which is filled by the saliva being drawn into the glass bulb. They are for sale at the dental depots of Jones, White & McCurdy.

In our last we noticed the decease of Dr. Flagg, of Boston, and promised a more extended notice in this number; but, in consequence of sickness, the gentleman who is preparing it has been unable to complete it in time for us. We hope to give it in our next.

We have received a highly complimentary letter, containing a sample of "Taylor's Lint," from a correspondent in Canada. We have not tested it fully, but cannot observe that it possesses any rare merit over clean cotton.

Additional Exchanges.—Western Journal of Medicine and Surgery, edited by L. P. Vandell, M. D., Published at Louisville, Ky. Charleston Medical Journal and Review, edited by D. J. Cain, M. D. and E. Peyre Porcher, M. D., Published at Charleston, S. C.

The Family Dental Journal, Published at Albany, N. Y., and Edited by Dr. D. C. Estes, Dentist.—This is a neat little monthly, intended, as its name implies, for general circulation. We wish it success.

See cover for various advertisements—New Agents—White's Prepared Gold—Prize Medals—Watts & Co.'s Prepared Gold—Philadelphia Dental College, etc.

We would call special attention to the advertisement of "James." He has the reputation of being a superior workman.

THE DENTAL NEWS LETTER.

VOL. VII.

PHILADELPHIA, JULY, 1854.

No. 4.

For the Dental News Letter.

NOTES FROM MY CASE BOOK.

BY J. D. WHITE, D. D. S., M. D.

We made a few remarks in the last number of the News Letter, on the subject of the absorption of Dentine. We remarked then, that absorption of dentine was not solely confined to the roots of the deciduous teeth, but to the crowns also, if there was any lateral force to retain them in position, after the roots had been absorbed as far as they were embraced by the gums. We have a great many specimens of the crowns of deciduous teeth, that present the appearance of a mere cap or shell filled up by a papillary mass; and in one specimen, which we have sent to a scientific gentleman in Europe, where this papillary mass had actually carried away the enamel on the grinding surface of a deciduous molar, so that blood was freely discharged at the aperture. It is not an uncommon thing to observe that the deciduous teeth present a pink hue, a short time prior to their shedding, and if such specimens were examined, it would be found that nearly the whole of the dentinal substance has been absorbed. This is an important matter, in a practical point of view, for we are quite sure that we have met with some trouble, as well as our friends, by not taking cognizance of this important function; we have, in a number of instances, plugged deciduous teeth, where there were superficial cavities, and in time, inflammation of the tooth would set in, and on removing the plug the pulp would be found against the plug; or, if inflammation had prevailed for any length of time, the pulp cavity would be found open to the cavity of decay, and the pulp in a state of suppuration.

The function of absorption is not confined to the action of the pulp or its membrane alone, but also to the external periosteum, for it is frequently observed that a portion of the external surface of the roots are absorbed deeper or less deep, as the apparent vitality of them would seem to have been retained, after the death of the pulp. It was once believed, by some, that when the pulp of a deciduous tooth was dead, absorption of the roots ceased; and by others that it was a loss of vitality that induced the establishment of that function; neither of

these extremes will explain the phenomena daily observed. We extracted two deciduous molars to-day, both of which had been plugged five years. One had the pulp destroyed at the time of plugging, and in the other the pulp was sound; these teeth were of the same class, and the roots about equally absorbed, except a thin shell around the pulp cavity, and near the body of the tooth, in the one in which the pulp had been destroyed. This seemed to argue that there was sufficient vitality remaining in the roots to be under the influence of absorption. This absorption, as we have remarked on a former occasion, is not strictly confined to the first set of teeth, and the following case will be more or less interesting.

CASE, No. 1.—A young gentlemen, 20 years of age, and of a nervo-lymphatic temperament, was presented to us by a distinguished neighboring dentist for consultation. It had been observed by his dentist, that a faint red spot was making its appearance in one of the front teeth, opposite the apex of the pulp; and which was the cause of some solicitude on the part of the patient, as well as the dentist. Of course it was a question, what could give rise to this strange appearance. We remarked at once, that it was one of two things—either a small blood vessel had been broken, and the dentine was absorbing the red globules of the blood, or it was a fungus of the pulp, which was displacing the dentine in some way; and this fungus was highly vascular, and was filling up the excavation as rapidly as it was made; and that it would go on, in all probability, until it would carry away all the internal structure of the tooth. We gave directions that it should be watched, and by taking the exact size of the spot at the time, with a compass, and compare it with its size at a given future period, it could be determined whether it was increased, and at what rate, &c. This precaution, however, was not taken, and in about one year the patient called upon us, and requested us to do something for the case as soon as possible, as the tooth had now become of quite a pink hue. The coloring matter had evidently approached to the anterior and posterior plates of the enamel, but the enamel appeared much thinner on the posterior part of the tooth. We proposed, at once, to pass a drill through the enamel at the back part of the tooth, as there was no cavity of decay about the tooth by which the spot could better be reached, but we had scarcely given our drill more than five or six turns, when it plunged into a large cavity, filled with a vascular mass of very low sensibility. After the bleeding subsided, we placed in contact with it the usual arsenical paste for treating the nervous pulp; and in about twenty hours after, we scraped away a large amount of the mass; but

on going down the root, we found the sensibility to increase, as we approached the normal structure of the pulp. We applied a small portion of the paste a second time, and in about twenty hours after removed the pulp, about two-thirds or three-fourths of the length of the root. The inner surface of this absorbed cavity was rough, and the substance of the tumor or fungus was adherent to it.

The absorbing process does really seem to attack the enamel also, as we have specimens of this kind in our possession, but it does not attack a decayed spot on a portion of the tooth, which has undergone such change as to have lost its vitality, as this absorption can be observed to stop; when it meets with a cavity of decay from the outside, it works around it, leaving the decayed portion stand free, as though the decay had been cut away from the sound tooth. This may be when it allows the enamel to break in, or exposes a plug that has been put in a cavity with only a thin plate of dentine to protect it; but not so, it is a *vital act*, whilst what we familiarly know as decay is *chemical solution* by contact with external agents. How else could we explain the fact, that many teeth lose their enamels, and the sensitive and vital bone still for a long time continues to resist the destroying agents.

The tooth above described, was washed out daily with water, so as to prevent the blood from remaining in it for a length of time, and in ten days the whole cavity was firmly plugged, as an ordinary case of treatment of the pulp. Three years have elapsed, and it still remains unchanged. On one occasion it gave some pain, which was relieved by the application of a few leeches to the gum.

CASE, No. 2.—A lady, Mrs. S——, similar temperament to case No. 1, had a front tooth plugged about one year; there was no pain in plugging at the time, but it became somewhat painful and of a pink color; she applied to her dentist, but he gave it no attention. We removed the plug, and found a large aperture opening to the pulp cavity, and the pulp seemed to have lost its sensibility, and was very vascular; upon taking the pulp away, we found that the pulp cavity had become very much enlarged, especially towards the opposite side from the plug, and the whole space occupied by this vascular mass. It was treated as Case No. 1. One year has passed, and it has given no trouble.

CASE, No. 3.—A young lady of seventeen; her father had plugged a very superficial cavity, in a front tooth, which fell out in a few months. She was sent to us for treatment. The pulp was so much enlarged as to almost protrude from the cavity of decay, and the whole

internal structure of the tooth had been absorbed. It was treated as the cases cited above.

CASE, No. 4.—A young lady of eighteen, had both front teeth filed by a distinguished dentist, to remove superficial decay; the teeth were sensitive to cold for a long time, and when she applied to us the pulps were both protruding through the orifices, so as to be flush with the filed surfaces of the teeth. They were treated as the above cases, with success.

CASE, No. 5.—A child five years old; the front teeth presented a pink appearance. We watched the case for about one year, when the whole gum became spongy, and presented the appearance of an *anastomosed tumor*. The teeth were extracted, and were mere shells, filled with a vascular mass; the parts soon became sound. The child had been troubled with *aneurisms* about the face while young.

We hope the foregoing may give some light on many cases of similar character, that fall necessarily under the observation of the dental practitioner.

For the Dental News Letter.

AN ESSAY ON ARSENIC,

Submitted to the Faculty of the Philadelphia College of Dental Surgery for the Degree of Doctor of Dental Surgery.—Session 1853-4.

BY SAMUEL W. FRAZER, OF DAUPHIN COUNTY, PA.

Arsenic.—This substance, though sometimes found native, as a rare mineral, is obtained as a collateral product in the roasting of the ores of nickel, cobalt, iron and some other metals with which it forms arseniurets.

The greater part of the arsenic of commerce is brought from Saxony and Bohemia. Pure arsenic is a metal of the second order; its oxides forming acids. It possesses a brilliant crystalline appearance and metallic lustre; is of a steel-gray color when recently prepared, but becomes dark and opaque by exposure to the atmosphere; its brilliancy may, however, be preserved by keeping in closely stopped vessels. It is incapable of being extended under the hammer, or of being drawn into wire, on account of its extreme brittleness, which property is retained in all its alloys; neither can it be fused, but volatilizes very readily, giving off white vapors, having a strong odor of garlic; the necessary amount of heat for this purpose is 356° F. The specific gravity of arsenic is given at from 5.7 to 5.9. Its chemical equivalent is 75. It is tasteless, and has no effect on the animal economy. It is an electro-negative substance.

Arsenic unites with oxygen in two proportions, forming, as stated before, acids—the arsenious As. O_3 , and arsenic As. O_5 . These compounds are exceedingly poisonous, the latter being the most virulent; the arsenious is the preparation of arsenic chiefly used as a medicine.

Arsenious acid comes in white crystalline cakes, generally transparent, though, like the pure metal, it becomes opaque by exposure. It is produced directly from the ores by sublimation in reverberatory furnaces, from which it is scraped and resublimed in cast iron vessels, by condemned criminals. It is but slightly soluble in cold water—100 parts of which, at 60°F. , dissolve but one of the acid. Boiling water, however, dissolves it much more readily, taking up about one-thirteenth of its weight; but, upon cooling, deposits a portion in the form of tetrahedral crystals; the solution remains much stronger than when made with cold water. It is also soluble in alcohol and oils.

Arsenious acid volatilizes at about 425°F. , giving off white inodorous fumes; but, if heated upon metal, which oxydizes at a low degree of heat, or upon any substance which will deprive it of its oxygen, the alliaceous odor is quite perceptible.

Arsenic and its compounds are used for many purposes in the arts and sciences. It is used almost exclusively in the preparation of bird skins for stuffing. Some of its compounds are much used as pigments, and another, though not the least use of it, is in medicine.

As a medicine, arsenic is tonic, alterative, escharotic, and in large doses, emetic. The dose of arsenious acid as a tonic or alterative, is one-twelfth of a grain, two or three times a day, given in pill. It is frequently beneficially used in intermittent fevers when quinia fails.

For many diseases, arsenic is administered in the preparation known as Fowler's Solution, which is a combination of carbonate of potassa, arsenious acid, spirits of lavender and distilled water. It has the taste, color and smell of lavender, and each fluidrach. contains one-half grain of arsenic. It possesses all the medicinal qualities of the acid, and is the form of it chiefly used when given internally.

In powder or ointment, arsenic is extensively used in the treatment of cancers and obstinate cutaneous diseases, the beneficial effects depending, in these cases, upon its escharotic properties, which are of a peculiar nature, having a great influence upon the diseased structure, and yet not effecting the healthy parts beneath. It should be administered in these cases, as well as in all others, with extreme caution, as it is as poisonous when applied to an ulcerated surface, a bruise or cut, as when taken internally—experiments upon the inferior animals proving it to act as speedily and as efficaciously in the one case as the other.

In the treatment of diseased organs, in the practice of Dentistry, this substance has been extensively called into requisition. It is but a few years since it was first brought before the notice of the profession, and the great reputation it soon acquired, together with an indiscriminate use in its application, occasioned both by carelessness and ignorance of its action, caused the needless loss of many valuable organs; but this very indiscriminate use had the tendency to arouse a spirit of inquiry and research, which has been of the greatest benefit in bringing about a knowledge of the correct use of this article of the *Materia Medica* and making it one of invaluable service to the Dental Surgeon.

For the purpose of destroying the dental pulp, when this operation becomes necessary, arsenic, if properly applied, has no equal; but, as is the case with most all remedial agents, is used with much greater success by some members of the profession than by others; in fact, the little success that some have met with, have induced them to lay it aside as an almost useless article. But, I opine, if all were known in regard to these cases, the unsuccessfulness of the application would be found to depend, in a great measure, not upon the inappropriateness of arsenic for the purpose, but upon other causes which exert a considerable modifying influence over the success of its application, as, for instance, the quantity applied; the length of time it is allowed to remain; the condition of the teeth and surrounding membranes; the constitution or temperament of the patient; the form of application, &c.

During the few years in which arsenic has been used for this purpose, similar to that, for merely allaying the sensibility of the dentine, it has been used in combination with many other substances, and in many ways which it will be unnecessary for me to consider. I shall, therefore, proceed at once to a short examination of the article in its most approved form.

Arsenic, as now most successfully used, consists of a mixture of arsenious acid, 30 grains; sulphate of morphia, 20 grains, and kreosote sufficient to form a paste about the consistency of cream. The acid should first be finely ground with the oil, afterwards the morphia should be added, and the whole mass triturated until perfectly mixed. All the articles used in the preparation of this paste should be as pure as they can possibly be obtained, and it might be preferable to use the denarcotized morphia in the place of the sulphate, for then the irritating property of the sulphuric acid would be dispensed with, and consequently the chances of success somewhat increased; for, it is a well known fact, that the greater the amount of irritation produced after

the application of the paste, the less are the chances of the successful issue of the treatment.

When, in the excavation of a carious tooth it is discovered that the pulp is exposed, or so nearly so that the necessary amount of pressure cannot be made upon the gold to insure a perfectly good and solid filling, such an one as will preserve the tooth from the future ravages of decay, it is much better at once to make as free an opening into the pulp cavity (so as freely to expose the pulp) as can be consistently done, without giving too much pain to the patient, and then to make an application of the above paste. In doing this, a small pledget of cotton should be moistened with about the twentieth part of a grain of the preparation and placed in direct contact with the sensitive pulp, this should then be secured by wax or some other substance. The best material I know for the purpose is another pledget of cotton dipped in a solution of gum sandarach in alcohol; this solidifies in a few minutes, retains the first pledget in place, shuts out the saliva and other fluids, and beside these there is less danger of making pressure on the nerve in inserting it than with wax or most substances similarly used.

Some persons advocate the use of the arsenical paste in very minute quantities, preferring to make several applications of it, in preference to using a larger quantity less frequently. If I understand rightly, the principle objection they make to using in larger quantities is the danger of its rapid absorption, and of being carried through the apex of the fang to the periosteum, causing inflammation of that membrane, and not unfrequently the subsequent loss of the organ; whereas, by using in less quantities its progress will be slower and can be better watched and applied with greater safety as regards the future health of the organ.

Others, again, advocate its use in about the same quantity I have given, believing, if enough is applied to unite with and produce a speedy slough of the pulp, it will not be absorbed, whilst, if the quantity is not sufficient to do this, it will be absorbed and cause considerable irritation and inflammation about the parts. But space will not permit me to argue the question here. I will merely add, that I consider about the twentieth part of a grain the proper quantity to be used. It is preferable to apply it in the morning, and it should remain from 12 to 24 hours, but that both the quantity and time must be governed, in a great measure, by the peculiarities of each case.

Arsenic is often used for another purpose in our profession, namely,

for allaying the extreme sensibility frequently experienced whilst excavating a cavity previous to filling. I will merely allude to it in this connection. For this purpose the dry pulverized arsenious acid should be used, and only when the depth of the cavity is of small extent, and in no case when it has extended more than half way between the pulp cavity and enamel, and when used should only be allowed to remain a few hours at most. In most cases a few vigorous strokes of the excavator, rightly directed, will be much preferable to the arsenic. Frequently, on its removal, the sensibility will be found to be increased, but will subside entirely by leaving the cavity exposed a day or so. In children's or in growing teeth it should not be used on account of the tubuli being much larger, and the greater risk of it being absorbed through them to the subsequent injury of the organ.

Before filling, the cavity should be washed out with warm water, to free it from any portions of the arsenic that may adhere to the cavity, and the excavation is completed. Even after this precaution, some little arsenic may remain, and may cause at some future day the death of the pulp, or otherwise give trouble.

Arsenic, in over doses is an irritant poison, the symptoms of which are a violent, burning pain in the stomach and bowels, retching, vomiting; the matter thrown up being of a greenish or yellowish color, sometimes streaked with blood, thirst, hoarseness, difficulty of speech, diarrhœa, convulsions, the eyes are red and sparkling, delirium and death.

There is a difference of opinion in regard to the manner in which it produces death; some thinking it acts directly on the coats of the stomach and intestines, others that it is first taken into the circulation and acts upon the nervous system. The stomach and intestines nearly always present an inflamed and ulcerated appearance, whether the poison has been taken internally or applied to an external surface. The time it requires to produce death, varies from one half hour to a day or more. Bleeding should not be resorted to on account of its liability to produce absorption. Nearly all the compounds of arsenic are poisonous. The best antidote is the hydrated sesquioxide of iron.

The liquid re-agents or tests for arsenic are lime water, ammonia-nitrate of silver, ammonia-sulphate of copper and hydrogen gas. The lime water throws down a white precipitate; the nitrate of silver, a beautiful lemon yellow; sulphate of copper, a rich green, known as Scheele's green; a jet of hydrogen gas, if it contains any arsenic, will be tinged with a bluish color when burned.

For the Dental News Letter.

ON HEMORRHAGE.

MESSRS. JONES, WHITE & McCURDY :—In the “Dental News Letter” for January, 1853, is an extract from the London Lancet, upon hemorrhage, consequent upon lancing the gums, and the method of arresting it—by F. A. B. Bonney. The unfrequency of this accident, is, perhaps, the reason why the treatment is almost entirely overlooked. In fact, a large majority of cases yield promptly to the measures recommended by Mr. Bonney, and yet there are cases in which his measures would be worse than useless. Having met a case that resisted almost every method of treatment, and feeling deeply the mortification consequent upon seeing a child perishing, (as I supposed,) through means advised by myself, I have since, not only followed the advice of Mr. Bonney of “looking well to the diathesis of the patient,” but have reflected deeply upon the subject.

The case alluded to was that of a boy, six months of age, laboring under fever, caused by dentition. The gums were slightly inflamed, and two incisions were made, through the gums, to the crowns of the two inferior central incisors.

No more than the usual hemorrhage followed the incision, until after the lapse of twelve hours ; at which time I was again called, and found the gums bleeding profusely. The usual styptics, (alum, tannin, &c.,) were resorted to, with such pressure as could be maintained by the hand of the nurse. These means failing, I carefully touched the incisions to the bottom, with a finely pointed piece of the nitrate of silver. This application arrested the hemorrhage for twenty-four hours, when it returned with increased violence. Another application was made with the caustic, which arrested the flow for a few hours only. Compression with the hand, was again resorted to, with compressers saturated with styptics, and as faithfully maintained as is possible, but without permanently arresting the hemorrhage.

The gums had now bled seventy-two hours in all ; the blood flowing was thin and serous, and failed to coagulate. I looked upon the case as hopeless, thinking, with reason, that the loss of blood had been too great for the child to recover. Still, however, persevering, and buoyed up by the old adage, “While there’s life, there’s hope,” I applied the actual cautery, carefully but thoroughly, it acted about as well as the caustic, the hemorrhage returning after a few hours, from an enlarged surface.

Turning my attention fully to the only available remedy remaining, *compression*, and feeling that its full effect had not been obtained in

consequence of the restlessness of the child, and the impossibility of making uniform pressure with the finger, I contrived a spring out of a few narrow strips of tinned sheet iron, with a compress at one end, as nearly as possible adapted to the gum, and sprinkled with powdered gum arabic; the other end being bent around so as to rest under the symphysis mentis. This being carefully padded, was adjusted so as to give the full force of the spring upon the bleeding gum, and retained in its position by a suitable bandage.

After forty-eight hours the compress was removed, having arrested the hemorrhage perfectly. During the above treatment the acetate of lead and anodynes were freely used. The child eventually recovered.

This child was of the *hemorrhagic diathesis*, as I have since ascertained by serious hemorrhage resulting from every slight wound, yet nothing in the parents or other members of the family would lead to that conclusion; so that *inquiry* could not have prevented the accident.

When the hemorrhagic diathesis does not exist, moderate pressure with compresses saturated with some styptics, will seldom fail to arrest such hemorrhage; and should it fail, a slight application of the solid nitrate of silver, to the bottom and throughout the extent of the incision, will prove successful, *provided* the child is prevented from sucking the gums or breast.

But Mr. Bonney fails to tell us what course to pursue, when so unfortunate as to scarify the gums of a child of the hemorrhagic diathesis.

In this case, the indications are,

1st. To obtain a trusty and faithful assistant.

2nd. To prevent the constant efforts at *sucking* upon the gums, which every child makes, even when asleep.

3d. To obtain *constant and uniform pressure*.

4th. To administer such remedies as promote the coagulation of the blood.

5th. To quiet the *crying of the infant* by every possible means.

The first and fourth indications need no comment, and the second would be fulfilled in adapting such an instrument as I would suggest, and confidently recommend to be employed in every case of *real danger*, and which I should have employed in the above case, had I then understood, as I now do, Mechanical Dentistry.

To fulfill the *third* and most important indication, *compression*, constant, uniform and complete; take an impression in wax, and strike up a plate to fit the gum, accurately, both over the incisions and around them; to this attach a spring of any suitable metal, leading, for the

inferior gum, to the symphysis mentis, and for the superior gum, to the crown of the head. Let the end resting under the symphysis or on the head be well padded, and retain the whole by a suitable bandage.

I am fully persuaded that the even and constant pressure of an accurately fitted plate, would be preferable to any compress, though saturated with powerful styptics : for PRESSURE is *the* remedy, and it were better in hemorrhagic diathesis, that styptics, caustic and cautery be not applied, for they aggravate the evil by exciting increased capillary irritation, or by forming a slough, which will certainly reproduce the hemorrhage.

5th. Suitable anodynes should also be employed, to prevent the constant crying which the application of such an instrument would provoke—as in the act of crying, the capillary vessels, especially of the head, become greatly distended with blood.

Should the above case, with the remarks thereon, possess any interest to you, they are yours to do with them as you please. I should not have taken up the subject had not Mr. Bonney's remarks been deficient in the most essential point.

With much respect, your ob't servant,

J. F. LEAMING.

Seaville, Cape May Co., N. J., April 26, 1854.

For the Dental News Letter.

A NEW METHOD OF MAKING BLOCK TEETH.

BY WM. CALVERT, D. D. S.

TO THE EDITORS OF THE "DENTAL NEWS LETTER"—*Gentlemen* :—Permit me, through the medium of your valuable columns, to offer for the consideration of the profession a few brief remarks upon the subject of *block making* or the manufacture of porcelain block teeth.

It is not my intention, nor is it my desire, here to treat of the various methods that have from time to time been practiced by those engaged in the manufacture of block-teeth. Nor is it my purpose to discuss the *relative merits* of the different methods, or of any one in particular, but my aim shall be to attempt a description, of a process of my own, that I adopted some time ago, and which I have most successfully practiced.

The first preparatory step to be taken, after having correct articulating models, is to select single teeth so defined as may either suit the taste of the operator or the peculiarity of the case, and supposing the case to be an upper denture, it will be necessary to have *two* front and two lateral incisors, two canine or cuspids, two bicuspids, (or if more convenient the cuspids) and four molars, all of which should be suffi-

ciently large to compensate for shrinkage, in the material of which the teeth are to be composed.

The plate upon which the blocks are to be made, and to which they are to be subsequently fitted, being upon its corresponding model, a rim of wax may be placed upon it, and the teeth arranged upon the wax, articulating with the antagonizing model, allowing sufficient in the length of the teeth for shrinkage. Beginning with the front incisors, the teeth should be set to the wax (as above) as far back on each side as the first bicuspid, inclusive; then leaving a space, equal to the width of *half a tooth*, the arch may be completed by the addition of the molars, two on each side. The teeth having been thus arranged upon the wax, with reference to regularity or irregularity, height, &c., the desired outline of gum may be filled up with wax.

Special care is requisite in so trimming the wax where joints are contemplated, that no subsequent alteration will be needed during the further manipulations.

It will be necessary, previous to making the moulds, to make some provision for replacing them, after they have been once removed, so that they shall occupy the same position as they did previous to their first removal. For this, it will be only necessary to make some conical holes in the face of the cast, say two on each side, between the centre and the first bicuspid teeth, and two opposite the molar teeth, of each side. These holes need not be more than about a quarter of an inch deep, and should be but a short distance below the edge or line of the plate. The face of the cast, including said holes, should now be varnished, when the case is ready for making the moulds.

The first mould to be made should be that including the four incisors, two canine and two first bicuspid, eight teeth in all. This may be done by simply oiling the face of the teeth, outline of gum and plaster cast, and pouring plaster of Paris of a proper consistency over the surface of the same, allowing it to fall slightly over the cutting edges, so as to form a more perfect mould. This mould should be divided in the centre, making two sections, which can be done by cutting through the plaster while in the state of hardening, or what is perhaps better, before applying the plaster, make an incision in the wax outline of gum, in which place a thin slip of sheet lead, letting it extend a little above the cutting edges of the teeth, and as far down the face of the cast as is desired to extend the mould. When hard, remove from the cast and teeth and we have the untrimmed mould for said eight teeth. Previous to making the moulds for the back teeth, it is necessary to remove the *first* bicuspid, or the cuspids representing them,

from the position they occupied in making the mould just described, and placing them beside the first molars so as to represent the *second* bicuspid. Care is to be taken in removing and replacing them, so that the original form of the wax be preserved, otherwise the end thereby intended to be secured will be defeated, and the joints at these points will be irregular and unsightly.

For the purpose of rendering clear, a point necessarily left somewhat obscure, in the foregoing description, it may be well here to state that the space of *half a tooth* left between the first bicuspid and the first molar, is to compensate for shrinkage in the length of the arch, for after the first bicuspid is removed and set adjacent to the first molar, (thereby representing the second bicuspid,) they occupy the entire vacancy first left, and one-half the space formerly occupied by said first bicuspid, hence the extension of the back moulds toward the centre is equivalent to the shrinkage of the entire arch.

As the foregoing is applicable where the case of fourteen teeth is to be divided into four blocks, as is usual in soldering, I would say that when the intention is to make pin holes for riveting, the space of *half a tooth* must be left between the canine and bicuspid instead of between the bicuspid and molar.

The moulds for the back teeth may now be made in the same manner as that of the front ones. After the moulds have been made as already described, they should be so trimmed that in the process of moulding the blocks, there would be no liability of removing portions of the enamel off the teeth in withdrawing the moulds. The moulds should now be varnished with some spirit varnish and after dry are ready for use.

The moulds being prepared, the next step is the enameling of the teeth in the moulds. The enamels should be moistened with a little clean water, and having previously oiled the section or sections of the mould, the blue or point enamel may be first applied (as stiff as it will work) with a very small spatula made for the purpose. This enamel should be *thin* at the base, and gradually thickening with the concavity of the mould to the cutting edges of the teeth. The yellow or base enamel is next applied *heavy* at the base and gradually terminating near the point.

After the enameling has been completed so far as is designed to be moulded at one time, a small quantity of the body about the consistency of a thick paste may be spread over the surface of the moulds and of the enamels, the moulds replaced upon the model and the body carefully filled in, at first rather soft but subsequently harder and harder,

until the mould is sufficiently full. Then applying the flame of a spirit lamp for a few minutes with the blow-pipe, the body will be toughened enough to work well, when the moulds may be removed. The teeth may then be separated and trimmed, the blocks divided as desired, the gum enamel applied, &c., &c., and so completed.

The process of enameling and moulding being precisely the same with all the blocks, it needs not that I should go into further detail.

I have already said that when the blocks are intended to be riveted upon the plate, the moulds are required to be somewhat different. There is also another difference, that is the moulding of the pin or rivet holes, which may be done by removing the plate from the model, placing the moulds upon the model, and drilling a small hole upon the prominence of the ridge opposite the centre of each tooth, in which insert a piece of wire of a desired size. The enameling, &c., may then be done as before described, and after the body has been hardened sufficiently, the pins may be removed, leaving the holes neatly moulded, perfectly smooth and straight. The blocks may then be finished at once, before removing from the cast.

For the Dental News Letter.

REVIEW OF "AUDI ALTEREM PARTEM"—W. A. PEASE.

BY A. S. TALBERT, LEXINGTON, KY.

The mind of man is so constituted that his thoughts are distinctly his own, until utterance is given them, either by word or that silent but mighty agent, the pen. It is a happy faculty thus to enjoy our own musings; it is delightful to commune with, to talk "face to face" with a friend; it is an inestimable blessing, to which science owes its existence, that man is capable of transmitting his thoughts to paper, and thus rendering them a common benefit and common property to all; but he who does it is liable to criticisms and entangling dilemmas. These reflections have been elicited by reading in the last number of the "News Letter" an article prefaced "Audi Alterem Partem."

I accord with the writer in his estimate of the propriety of exhibiting specimens of Mechanical Dentistry, at Agricultural, Industrial and Mechanical Fairs, as they are now usually conducted, chiefly on account of the incompetency of the committees set apart to determine the merits of such specimens, for they are seldom practical dentists, and are obliged to be governed mainly by the external appearance and finish of the work, and are liable to be swayed *somewhat* by the *character* of the exhibitor. It is impossible, too, to judge by a few specimens of plate work, or of teeth plugged while fastened in a bench vice,

what are the capacities of the dentist, as a practical operator, or whether he be worthy the honor they are about to confer upon him. But, instead of "joining the Board in their endeavors, and offering a suitable and becoming reward," let us at our annual meetings, and Dental Societies, and College Associations, offer a suitable recompense for the best executed plate operation; let us each and every one of us prepare a specimen of Mechanical Dentistry, as well as write a treatise on some branch of the profession, and when we meet together, compare our operations, compare our notes, and mutually and freely interchange our sentiments, and impart our experience. But I must confess ignorance as to the manner in which these Fairs are conducted, never having attended but one of them, and that one only a County Fair, held at Dayton, Ohio, at which the writer of the article in review, though unable to leave his room, was one of the exhibitors, having *sent there* a very handsome, though impracticable specimen *made in Cincinnati* by Dr. Hunter. Here I will illustrate my remark, "the committee are liable to be swayed in their judgment by the *character* of the exhibitor;" for the diploma was not awarded to the man who exhibited the *finest* specimen, but to one whose character, as an operator, greatly excelled that of his rivals; a fact that, no doubt, had an influence on the mind of the writer in his conclusion, that "the ways of wisdom are past finding out." When I remember the effort he made on that occasion, I am rather surprised at his denunciation of the practice of exhibiting, as well as the position he assigns to those who contend for the prize on such occasions and at such places; seeing such men as himself (!) and Allen, and Brown, and Hunter, and Chapman, and a host of such, come under the list of exhibitors. It may be, however, that his distaste comes in part from the fact, that he was foiled in his first effort; a fact which, no doubt, resulted in part from his lack of that happy faculty which he considers invaluable in "Irish girls," to wit:—a "good scrubber!" Here I am reminded of his remark, "these men never appear at Fairs, they cannot compete with him whose mind has ever been disciplined and directed to attaining the highest polish on a gold plate, and the combination of alloy that will retain the polish and color with the least possible amount of gold compatible with the safety of the patient. To this I wish to make the general reply, that in my practice, I have seen the work of almost every class of dentists, and that all seem to understand the "art and mystery" of *alloying gold* to something approaching perfection, though *occasionally*, I have met an operation in which the plate was so alloyed as to put the dentists to his wits end, to *flow* his solder without melting

the plate, and thus he has left it in such huge masses as to suggest the thought that a "*leetle*" more "scrubbing" would have made it pleasanter to the wearer, and more creditable to himself; especially as his professional brethren were not likely to understand that it was for want of "abundance of time" that he left such scratches and roughnesses.

A ring to be worn on the finger—a bracelet—a pin—any piece of jewellery is finished and burnished to the highest point of polish; but a plate to be worn in the mouth upon the finest tissues of the human system, and to subserve the most important function, is often inserted with less of finish, less symmetry in its proportions, and less of scientific adaptation, than is the horse shoe nailed to the insensitive hoof, to be trodden in the mire.

With the facilities which most of dentists enjoy, there is no necessity for "glistening, preternaturally, small and white artificial teeth;" and that artificial teeth cannot be dispensed with every one knows; and the writer admits, for all cannot and will not have their natural ones attended to at the proper time to preserve them.

"The poor, ye have with you always," was the language of our Saviour; but the fact that he foresaw this does not imply a necessity for any one to be indigent.

Decay and loss of teeth we have had, and shall have with us always, nor does this fact render it necessary to loose our natural teeth and let artificial ones "come in vogue." But natural teeth are not so easily "*clicked*" out, as to render it probable, that people will have them extracted for the sake of artificial ones, nor do "flaming advertisements" have this deleterious effect upon natural teeth, or there are some communities I wot of, the "natives" of which would have been "edentated" long ere this. I may be pardoned if I here digress a moment, while I think of it, and introduce a few samples of "flaming advertisements," which the writer of the article in review so much deprecates, seeing they may be of benefit (?) to such young dentists as are fond of display—omitting, as a matter of courtesy, the names, as they are real bona fide advertisements, which, like "stud-horse bills," I have seen posted up in the market house, and thrown in every body's market basket, and every huckter's wagon.

DENTISTRY.

Dr. ——— will fill and insert teeth for a few months at cost, for the purpose of showing to the inhabitants of ——— and vicinity, the superiority of his method in those departments, particularly in large sets, and by atmospheric pressure. Persons who have lost their teeth can have a beautiful and useful set inserted, or have their decayed ones filled, and

thus prevented from aching and further decay, at a comparatively small expense. He is enabled to do this remarkably low, from having recently brought from New York, a large assortment of teeth, and all the recent improvements in dental instruments and dentistry.

The most violent tooth-ache cured generally in five minutes, and soon prevented from ever aching again, by a perfectly safe preparation, and without injury to the teeth. Teeth extracted with instruments so constructed as never to break the jaw-bone, and with comparatively little pain. Children's teeth attended to during first and second dentition, to insure their regularity and health; also, attention paid to diseases of the gums and mouth. All persons are invited to call and acquaint themselves of his principles of practice, as he will cheerfully give them all the information they desire respecting the condition of their mouth.

N. B.—No one need have any delicacy about calling, thinking that if they call, a fee will be expected, or that they will have something done, as all advice is gratuitous, and he had much rather see them than not. Office, &c. &c.

Again, at the close of an equally "flaming" standing advertisement, "having had great experience at the East, and for the purpose of showing the superiority of his method, will fill and insert teeth till the first of May next, at cost, thus affording an opportunity to all, of having their mouths perfected at comparatively small expense," &c. &c.

But to return again, I will remark, that as incentives to exertion, and as a means of a public examination and profit to practicing dentists, while I *admit* to some extent their *utility*, I *question* their *professional* bearing, though I do not think they smell so loudly of quackery as such advertisements as I have quoted, and though their authors do sometimes write for the journals and denounce quackery with bitter imprecations; yet their productions hardly compare with those of the men "who have spent their lives in the study of the human system, the laws of life, and disease, &c. &c., and assayed to divine the cause, why an Irishman among his bogs, a Dutchman by his canals, the monk in his alpine hospice, or stout John Bull at his ale tub, should possess nearly perfect teeth; but when transplanted into America, are edentated like the natives!"

I have said that artificial teeth cannot be dispensed with. I repeat it. And while we deprecate the *necessity*, let us avail ourselves of every improvement to "perfect this department" of our chosen profession, so that when we invite our patrons to call and have their mouths "perfected at cost," we shall not be compelled to send them away with hollow cheeks and a few ragged teeth in front, the "grinders having ceased to grind, because they are few;" but let us fill the vacancies with teeth matched to nature, "plumper" and all, if

need be, mounted on substantial bases, accurately fitted, perfectly articulated, neatly finished—a health restorer—a beauty preserver—a comfort to the wearer—an *advertisement* to the dentist.

I would not undervalue the therapeutic and clinical part of our profession. I believe that common caries may, in all cases, be arrested, if properly attended to, and at the proper time. But how is this to be brought about? Surely not by *refusing* to insert artificial teeth, or in throwing obstacles in the way of “perfecting Mechanical Dentistry,” nor yet by inserting half finished, badly arranged, poorly selected, illy matched and wretched looking, wo-begone operations as we often meet with out here in “these western diggins.”

For the Dental News Letter.

ON FILING TEETH TO RELIEVE PAIN PRODUCED BY PRESSURE IN THEIR DEVELOPMENT.

Presuming upon the experience of many years, that if a severe pain exist in a tooth—say the bicuspid, molars, incisors, or, as I have frequently found to be the case, described as being between two—and upon careful investigation, no caries can be detected in any of the teeth upon that side of the mouth, in either jaw, which may lead to the conviction that the pain is sympathetic from such caries, and careful observations have convinced me that the pain felt originates from an undue pressure of the teeth against each other, the exciting cause being most commonly due to the progressive development of the third molar, not so much at the time of its protrusion through the soft tissues, as when it has so far advanced in its development as to bring the broadest diameter of the crown on a level with that of the teeth situated anteriorly to it.

If the third molar is distorted in its position, or is such in growth that there can be little hope of its becoming an efficient organ—the duties of which, if it does not fulfill—its presence must prove worse than useless, and, therefore, it should be removed. But, as not unfrequently happens, the patient's fears, aided by the consciousness of the distant seat of pain, frustrate the surgeon's judgment; it is then that I would urge its pressure against the next being removed by a file being passed between it and the second molar, and this part of the operation to be performed previously to that of a file being passed between those teeth which occupy the seat of pain, and not unfrequently it will be found to preclude the necessity for the latter being done, and if so, the most valuable are preserved uninjured.

Another test by which the truthfulness of the existence of abnormal pressure may be diagnosed, is to be found in the increased pain being given, or its reproduction from cessation caused, by the introduction of a thin wedge-shaped instrument between either the teeth affected, or between the second and third molar. This instrument increases the pressure and, therefore, increases the pain, and the true origin of the disease is palpably manifest.

Generally the operation of the file, in such cases, is described as far from producing so disagreeable a sensation as under ordinary circumstances, and the completion of the operation is always instant relief. Sometimes, if the enamel be thin, or the approximal surfaces lie very parallel to each other, so that the file would have to cut its whole way to the gums, coming into contact with the dentine and peri-dental membrane at the extremity of the enamel, or from some other cause the tooth may be exceedingly sensitive, the operation which would otherwise be very tedious and painful, may be greatly relieved by the local application either of chloroform, or a strongly saturated solution of camphor in rectified spirits of wine. Of course, as in all long operations of the file, the frequent application of cold water, by precluding the file and tooth from becoming hot by friction, renders the operation safer and more pleasant to both the operator and patient.

I will give two cases from my *Note Book* in illustration of what I have said:—Mr. J. R., aged 18 years, called at my office in 1852, and requested me to extract a tooth for him, which he said had been aching for several days, and that he could not sleep at night. I examined his mouth and could not find a decayed tooth in it. He said it was the inferior middle incisor. I examined it, and found it tender to the touch. He still insisted on its removal. I informed him that I could save it. I then passed a file between the first and second incisors, and the result was instant relief from pain, and remains so until the present time.

The second was a girl of 12 years of age; she came to my office and requested me to extract a tooth for her that was aching very badly, and said it was not decayed. I examined the tooth and found it correct. I told her I could save the tooth for her without extracting it. She said she would be very glad to save the tooth; it was the second inferior molar. I passed a file between the first and second molars, and also between the second and third, and the result was instant relief from pain, and has continued so ever since.

W. H. BAKER, M. D.

J. R. McCURDY, ESQ.—*Dear Sir* :—In answer to your request, I assure you it is agreeable to my feelings, to furnish for your “Letter” some brief notice of my lately deceased brother’s history. This I will endeavor to do as freely, and as exempt from all prejudice as the tie of consanguinity will permit.

Losing our father at a very early period of my own life, the responsibilities of “head of the family” naturally fell upon my elder brother. He thus became my guardian, and, in due course of time, my professional preceptor. From this condition of things, it will readily be seen that our relationship assumed more the character of parent and son, than that of brothers. It is in this peculiar view I delight most in contemplating his character, and his return love and kindness to myself.

Respectfully, yours,

J. F. B. FLAGG.

Philadelphia, March, 1854.

DR. JOSIAH FOSTER FLAGG, the subject of the present sketch, was the eldest son of Dr. Josiah Flagg, Surgeon Dentist, of Boston, Mass., who, after acquiring a reputation for great skill in the line of his profession at home, was received with much honor by the learned Surgeons of London, upon the occasion of his compulsory visit to England, at the time of our difficulties with that country, during the years 1812 to '15, when he returned to his native land, and departed this life, in Charleston, S. C., on the 30th September, 1816, in the fifty-third year of his age.

Dr. J. F. Flagg was born in Boston, January 10th, 1788. As a boy, he was industrious and remarkably ingenious. He would labor upon the farm or in the workshop, with equal enjoyment; but, until he was some 15 or 16 years of age, he utterly repudiated books. At that period, the field for promoting or cultivating mechanical ingenuity being exceedingly limited, it was decided by his father to put him to the trade of cabinet-making, as the best means of acquiring the use of tools and developing the future man.

It was during some period of this apprenticeship that, by a simple stratagem on the part of his father, young Flagg became suddenly imbued with the love of reading; and the desire to study soon led to his being placed at an Academy at Plainfield, Conn., preparatory to his professional course of tuition.

It was about the commencement of the war above alluded to, that Dr. Flagg entered the office of the present celebrated Professor J. C. Warren, as his pupil of Medicine and Surgery, the respect and esteem

of whom he most fully secured, and entertained through the subsequent period of his life. Close application to his professional studies—skill in the use of the knife as a most delicate dissector—and genius in constructing surgical instruments, anatomical preparations and methods of alleviating human suffering, not unfrequently led to the most honorable mention of his name before the medical classes of his preceptor.

Graduating in due time, Dr. F. first located as a practicing physician and surgeon in the town of Dover, N. H., where he remained about two years, when he removed to Uxbridge, Mass., and continued in the same department of practice for about the same period of time. In both of which places he secured a large circle of friends, who truly mourn his loss, but will long be cheered by a fond recollection of his many virtues.

In 1818 Dr. F. was married to Miss Mary Wait, daughter of Thos. B. Wait, Esq., of Boston, with whom he lived most happily. They had no children, except one by adoption, a son of his sister's, Mrs. E. H. Taft, who was named for his uncle, and subsequently became an object of his especial love and care.

At the earnest request of many professional and other friends, in the city of Boston, Dr. Flagg was induced to remove to that place, in 1819, and to confine his attention to the dental department of the healing art. A knowledge of the fact that he had occasionally assisted his father in the mechanical operations of dentistry, being deemed sufficient at that period to secure the most extensive confidence in his ability in this respect, to minister to the wants of the community. A continuous practice of thirty-four years, (till the time of his death,) well attested by a large circle of patients, and approbated by the best professors of our art, most amply justifies the correctness of that judgment which thus early, and upon these limited premises, called upon him to act. Always impressed with the high responsibilities of the Dental Surgeon, he was particularly rigid in requiring of all who adopted its practice, such course of preparatory studies and tuition as the state of its progress would afford. For many years it was his most strenuous desire to establish a Dental Chair in our regular Medical Schools—but failing in that, he hailed with delight, the formation of such colleges as would secure the most ample instruction, and serve the more effectually to drive empiricism from our midst.

It is always gratifying to the members of our especial department, to recall to mind the many valuable gifts we have made to suffering humanity; it is therefore not unreasonable that we should feel some degree of pride, when our inventions and suggestions extend beyond

our immediate province, and are adopted by other branches of the healing art. Dr. F. was prolific in his contributions of this character, among which were his box, or trough splints, for fractured limbs, and a great variety of bone forceps, which have now very much superseded the use of the saw in certain amputating operations. Forceps, calculated to apply to every variety of teeth, accurately fitted for their legitimate purposes, were also first invented by him in 1828. An account of, and engravings for which, he supplied for the "Massachusetts Medical Journal" at that time.*

As an artist, he occupied no mean position. In drawing, painting, designing, wood engraving, &c., he excelled, and this too, without the formality of instruction. As an instance of this versatility of genius, the following incident in his life will serve to show: At the time of his pupilage, it was thought desirable to obtain, for the use of students, a reduced edition of "Haller on the Arteries," and to bring it within their means, *wood cuts* were to be supplied in place of copper-plates. This task was undertaken by Dr. F., without any previous preparation. Dr. Warren, who assisted in getting up this work, says: "An impression from the engraving on wood was compared with the copper-plate impression of the London edition, and appeared to me, though inferior in beauty, yet fully equal in utility. Some of the impressions from the engravings done in this country, seem to convey even more distinct notions of the parts they represent, than those of the English work." Indeed, they suffer nothing in comparison with the best wood engravings of the present day.

The first "School of Design" in this country was founded by him, in which he personally assisted, not only in its management, but with the valuable aid of his pencil. As a testimony of esteem, a scholarship after his name has been established in this institution, and the compliment of nominating the recipient of this bounty, is paid to his widow, during her life time.

It is a matter of much astonishment to recall to mind the immense amount of labor that has been performed by this one member of the community, when we reflect that, from early manhood he has been almost constantly a sufferer, both from excessive indigestion, and from many accidents of violent character, not unfrequently implicating the fracture of bones, with other internal injuries. It was while suffering from

* It is a little singular, that Dr. J. Tones should claim the merit of this invention, as will be seen in his "Dental Surgery and Physiology," page 321, at least *twelve years* after several sets of the "Flagg Forceps" were in use in London, and very generally in other European cities.

an attack of this long continued disease (dyspepsia) that Dr. Flagg met with his death, in the following violent manner :

After an illness of several weeks, in the months of November and December last, he had become much prostrated. His sufferings were so great, at times, he expressed a fear that he might be led to commit some violence upon himself. A few days previous to his death, his family thought they perceived, once or twice, a disposition to this effect in moments of extreme paroxysms of pain ; in consequence of which they preserved a rigid watchfulness over all his movements. It was on the morning of December 20th, soon after the family had breakfasted, that he retired to his chamber in great pain, followed by his wife. He had thrown himself upon the bed, and immediately after, the attention of Mrs. F. was called to the entry, for the purpose of giving some domestic directions. At this moment he rushed for the window and threw it up, either for the purpose of obtaining air, and (being exceedingly weak) lost his balance and fell ; or, not knowing what he did, precipitated himself therefrom, and was instantly killed. Thus died a good man.

Dr. Flagg in person was tall and slender, possessing regular, strongly marked and pleasing features. His moral character is thus briefly and beautifully expressed, in one of the periodicals of the day, at the time of his death. It is from the pen of a lady of this city, who had for many years enjoyed his acquaintance :

*“Died—*In the city of Boston, on the 20th inst., Josiah Foster Flagg, M. D. The announcement of his death will carry sadness to many hearts, for he was extensively known, and highly esteemed. The record of his beautiful domestic life is written in the hearts of those who were bound to him by the ties of consanguinity, or of intimate friendship, and it will be an ever-living source of consolation in their bereavement. In his public relations he was a wise and good citizen, an ardent philanthropist, a liberal patron of the arts and sciences, a friend to the poor and the oppressed. Living, he blessed the world with his influence, exerted in behalf of righteousness, and dying, he has bequeathed to it the legacy of such a life’s example.”

At a meeting of the Pennsylvania Association of Dental Surgeons, the following resolutions were passed :

Resolved, That it is with unfeigned regret that we have heard of the death of our worthy friend and fellow practitioner, Dr. J. F. FLAGG, of Boston ; more particularly do we feel the loss at this time, when we

remember his devotedness to that branch of Surgery to which he was so ardently attached, and whose every aim was its advancement to a higher standard.

Resolved, That we deeply sympathize with his bereaved family—ever recognising these visitations as the act of an over-ruling Providence.

Resolved, That a copy of these resolutions be sent to his family. Also, a copy to the Dental News Letter for publication.

JAS. M. HARRIS,
J. D. WHITE,
J. H. M'QUILLEN,
Committee.

For the Dental News Letter.

MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

MESSRS. EDITORS:—Please insert in the “News Letter” the following extract from the proceedings of the “Miss. Valley Association of Dental Surgeons:”

“1st. Resolved, That this Association will award one hundred dollars to the author of the best essay (not previously published) on Dental Surgery, *adapted to popular circulation*; to contain not less than fifty, nor more than seventy-five pages duodecimo; the copyright to be the property of the Society. Said essay to be approved by a committee, and by it to be printed and issued to the members of the Society, and receive the approval of the Association before it be published for general circulation.

“2d. Resolved, That a committee of five be appointed, by ballot, to examine the essays presented, and report at the next meeting. Essays competing for said award to be forwarded to the chairman of the committee as early as January 1st, 1855.”

The committee consists of James Taylor, (chairman,) W. H. Goddard, A. Berry, A. M. Leslie, and J. Taft.

NOTE.—Authors sending essays under the above resolutions, will accompany it with their full signature and address, which they will enclose in a sealed envelope, which will be opened, should the accompanying essay prove the successful one, otherwise it will be returned with the manuscript.

GEO. WATT,
Corresponding Secretary M. V. A. D. S.

For the Dental News Letter.

DENTITION—ITS CONNECTION WITH IRREGULARITY.

BY ROBEY AUGUSTINE.

From the amount of reprehensible mal-practice coming almost daily under our observation, in the treatment of the deciduous teeth, we are compelled to believe that little of that attention is given to the subject it so imperatively demands. We think we are justified in the assertion, that of all the cases of irregularities in second dentition, at least one-third may be traced—not indirectly, but directly—to mal-treatment of the first—a mal-treatment, the result either of inexcusable carelessness or lack of reflection.

In taking up our pen, we are actuated by a strong desire—by an existing necessity, to impress upon the minds of the younger gentlemen of the profession, the importance of a clear understanding of this particular speciality; its imperative demand upon their attention for much study and much reflection. Study and reflection which will enable them so to direct their practice, that it may never cast upon them its scowls of condemnation, or upbraid them for that which a more liberal store of care might, in its timely display, have prevented or remedied.

If we can be pardoned, we would recommend for consideration, and as a text, “Carpenter’s Physiology of Dentition;” read it, young gentlemen, or, if in your studies you may have done so already, review it; thoroughly familiarize yourselves—not as by rote—but comprehensively and understandingly, with his correct views—from the formation of the scarcely distinguishable ridge of the embryo, to the completion of the admirable process, in the *Dentes Sapientæ Hominis*.

And here, in passing, it may not be out of place to remark, on the importance of at least a limited knowledge of the laws of Dentition on the part of parents, else may they be as well the authors of deformity, as of the existence of their children. Parents pride themselves in their children, live again in them, love them, and naturally desire their comeliness; how necessary, then, to be possessed of a knowledge which comprehends that so closely allied with their love and pride—the physical effects of causes.

Est conjuratio Dentists contra plebem—an illustration of the most common practice, (as must be admitted) and the imputation would seem to resolve itself into an axiom. Does a child fret half an hour with an aching tooth? away we have it hurried to the physician or dentist’s; the offending member must be got rid of, and that immediately; the child must not endure the pain, the parent will not endure the attendant trouble. No explanation is desired, no future considered;

proper or improper, the operator must use his instruments. And he, sorry as we are to say it, frees himself of a crying child and a quantity of present trouble, as Jupiter freed himself of the importunities of the slater. We have the tooth, or, it may be teeth, and what is the consequence? Perhaps the little patient may be in his or her fourth year, the extracted teeth the incisors; then here remains some three years for the absorption of the parts, or rather, I might say—if the seemingly contradictory terms may be understood, as they present themselves to my mind—the acquiring and strengthening of an *abnormal normality*—a healthy and yet, *en futuro*, most unhealthy relations and condition of the parts. No absorption of the roots had commenced, the sac and germ of the permanent was not following the receding fang, occupying naturally the space preparing for it by the beautiful economy of the well understood organic laws; but a violence has been inflicted, natural laws outraged, the permanent shut up, barred up, as it were, compelled to seek an egress as best it may. Or, in other words, you assist or compel a contraction of the parts, which the kindly office of the elongatory process is unable to counterbalance, and then, with a contracted maxilla, it is regretted that the thirty-two permanent teeth should be crowded and irregular; what else could common sense expect; study the case but for a moment, and it must be evident that the arch is deficient in at least one-tenth of what, let alone, or properly cared for, would have been the natural arch and capacity of the maxilla. There is no room for the teeth; there is, perhaps, for twenty-four, or it may be twenty-eight, but for thirty-two, impossible. Well, here it is we find ourselves, or rather our patients, in the exact condition of the aforementioned slater. And I deem it but necessary to add, or rather to express the hope that your prayers, or means employed, may get you and them as easily out of your difficulty.

In our own practice we compel in ourselves an adherence to the rule, "Let nature alone." Yet let us not be misunderstood. Not an adherence to the principles of the law which exhibits the *lusus naturæ*, but to the operations of that law, which works along in the good, unimprovable, old-fashioned, sensible manner. We are perfectly satisfied to look on, or render assistance only when and how it is demanded. We do not fear misunderstanding the seldom made call. Natural language is too plain, the fangless crown, held alone in its loosened position by the slight remaining attachment with the gum, causing extreme pain and annoyance by the irritation it induces; can any call make a plainer demand? You remove it, the crown of the permanent just visi-

ble in its pearly beauty and regularity, proves the correctness of the course pursued, and cheers both the practitioner and patient with its promise of perfection and living attractiveness.

One word more concerning the treatment of the deciduous teeth, and we have written sufficient to direct attention to the importance of the matter, and recall to mind incidents of oftentimes carelessness of practice, of which, to a greater or less degree, all of us must acknowledge the imputation of guilty. If your narcotics or sedatives, or mechanical means employed for the destruction of the nerve fail—and they never need fail in their different offices—then let the aching tooth ache on; better that the child should suffer, than the parent should suffer in sympathy, than that, to give an hour's immunity, you entail a deformity that all your skill shall scarcely suffice to correct. Never mind the annoyance; drug the nerve to sleep; send it to the pantheon of the infernos by a slight discharge of your battery. Get clear of your personal trouble as best you can, but save the tooth; suffer it to perform the duties of its organism, and the gratifying result will afford ample remuneration for every endured annoyance and vexation.

And now, with your permission, a few words concerning second dentition. We will suppose an improper course to have been pursued in reference to the first, then here we have the over-crowded arch, the deformity of irregularity—the consequence of mal-practice. What is to be done? Corrected. How? If you are not prepared to make answer, as the question in its thousand forms presents itself, then here is another demand, both upon your skill as dentists, and upon your honor as gentlemen, for that attention, study and reflection which invests with the mantle of familiarity, and shapes the practice to the end. If, as is most common, the approximating of the lateral and bicuspid, leave no room for the cuspidati, then here we have irregularity, but irregularity in its most remediable form. A timely removal of either or both bicuspids, or of the six year molars, and in ten cases out of the dozen the deformity is corrected; but this, as we remarked, is irregularity in its simple form. And yet, simple as is the disease, simple as is the remedy, yet will it be remarked, the judgment it calls for. A sufficiency of space obtained, you have this remedy; too great a space, *exitus est incertus*; even more, you have added another disease, in the loss of the approximal support; have piled pelion upon ossa. If, then, in the simplest windings of the maze, we are thus reminded of the necessity for a strict observance of the land-marks, how must that intricacy increase, and those marks grow the fewer as we advance.

Did we deem it necessary, we might instance case after case, where

these land-marks—if the expression is allowable—fail us entirely. Where precedents seem to have had no existence, and where our only guide is an analogy in pathological reasoning.

And again, the correction of irregularities, howsoever easy in theory, will be found most difficult and delicate in practice; not only will much skill be found requisite, but, in an equal degree, patience. The probability of a periosteal affection, and its attendant consequences, are of too common occurrence not to condemn haste, which unceasing complaints from the patient seem to require.

Also, will it be remarked, the necessity of judgment in the employment of means; which, or what material employed will compass the end desired with least annoyance to the patient or injury to the parts; whether it should be silk, rubber, wood or metal; but our object is to call a concentrated attention to the subject of dentition, not to offer instructions upon it, or upon the consequences of its maltreatment. Our libraries teem with this logic, while our colleges abound in its theories, as well as in the deductions of experience. We trust we shall not have occupied these pages in vain. We trust for it, because of the pride we feel in the noble standing of our profession. We trust for it, because we would have its members worthy and honorable supporters of its still extending dignity. And, finally, because of what is due those amongst whom we practice.

For the Dental News Letter.

MESSRS. EDITORS :—If I thought I could *write* Dentistry as well as *some* dentists, your “solicitations” might induce me to give *my* method of soldering teeth, did I not think that the various modes adopted by other dentists were as good for them as mine is for me. But *I* meet with a difficulty which others do not, or if they do they have a remedy at hand.

After guarding against all the common difficulties in a very simple manner, I find that *my plates* are “sprung a particle” by the contraction of the solder. I also find, by *actual experiment*, that the tendency of the solder to warp the plate from its original form, is at the rate of one inch in thirty-six. If the different masses of solder are allowed to flow together, then the tendency is at the rate of one inch in twenty-four. I am aware that the form of some plates is such that they resist the contraction of the solder to a considerable degree. But when that is not the case what can be done? I look to the “Dental News Letter” for information, hoping that the next will give some compensation plan to remedy the difficulty.

T. D. INGERSOLL.

Monroe, Michigan, May, 1854.

For the Dental News Letter.

IRREGULARITIES OF TEETH.

BY H. S. BURR, M. D.

By the request of my friend, Prof. White, I present a successful case of treatment of irregularity, more with the view of showing and encouraging the younger members of the profession, than imparting any thing particularly new. We have had so recent and able a production from Dr. Evans, that it is needless for me to bring the subject again before the public.

Miss W., aged 15, temperament nervous-sanguine, presented a squirrel-like mouth; the bicuspid within the arch, the cuspids projecting, the lateral incisors catching within the under teeth.



Fig. 1. I commenced by fitting skeleton caps (of gold) to the first molars; a stiff bar was passed in front, one end soldered to one cap, the other end sliding in a groove. I tied the two first bicuspid and the two lateral incisors to the bar with thin strips of gum elastic. The strips, being stronger than rings, are preferable.

The rings which I have been able to procure are made of some composition which breaks easily. The gum elastic is cut into thin strips, or threads, by the manufacturer, in order to divide it minutely, previous to dissolving. White gum elastic may be procured, which is not so unsightly when worn between front teeth.



Fig. 2.

In three weeks the teeth were brought to their proper places, and could have been much sooner, had they not been extremely sore. While so very tender, I substituted silk for the gum elastic, which held the teeth stationary until the soreness left them. I kept them tied with silk for a few days, and had a plate made to fit on the

inside of the mouth and teeth, covering the palatine arch, and extend-

ing down one-half the length of the teeth, with half springs inside the bicusps. In such a case Dr. Evans' plan of retaining the teeth until the alveoli have become solid, was objectionable, from the mechanism of the shut of the teeth. When closed, the upper arch was much larger than the under, which was crowded, and the teeth inclined inwards to the right. Having lost the first molar on the left, there was ample room to crowd them over to that side, not coming in contact with the upper teeth, being kept asunder by the caps. The teeth have straightened, and the arch has grown wider.

I will take this opportunity to mention the great and absolute necessity of studying the shut of the mouth, before prognosticating that an irregularity can be corrected.

NOTE.—Fig. 1 is case treated. Fig. 2 is skeleton caps and bar.

For the Dental News Letter.

THE PRACTICE OF DENTISTRY IN PORTUGAL.

MESSRS. EDITORS :—Agreeably to a promise made in my last letter, I will give you a short account of a few of the troubles which I experienced on commencing the practice of my profession in this city.

On my arrival I was informed by a friend that I would not be allowed to practice without first passing an examination before the Medical and Surgical Schools ; but, as I came direct from the Azores, where I had practiced without any annoyance for more than two years, I did not anticipate any immediate interference ; so, without any delay, I opened an office, and made myself known to the public through the journals. One of my first visitors was a person who called himself the “Swiss Dentist ;” he said that he had been empowered by the “Conselho de Sande” (Council of Health, composed of Physicians and Surgeons) to call upon me and examine my diploma ; but, upon my refusing to give him any satisfaction unless he could *show* his authority, he became very much enraged, and behaved so improperly that I was obliged to compel him to leave the house.

I ascertained, on inquiry, that he was in the habit of calling on all dentists immediately on their arrival, for the purpose of frightening them so that they might not remain ; and if he does not succeed, he enters a complaint that they are practicing without a license. Consequently I was not surprised when, after the lapse of a few days, I received a letter notifying me that in conformity with a law made in the year 1837, I must within 24 hours present my diploma for inspection. (It may be as well for me to here state, that I am one of those who unfortunately have not had an opportunity for collegiate instruc-

tion. I left America partly on account of illness, thinking that I should return in a few months; but my success and improved state of health, induced me to visit other places. In the present case, had I been the possessor of an American diploma, I should have been saved a deal of time, trouble and expense.)

I then concluded that the best thing for me to do would be to make an application for an examination, which I accordingly did. I was first obliged to visit the hospital for six days and operate before the Surgeons, and at the expiration of the time, they gave me a certificate, remarking—"that I had not performed any *very* difficult operation, as out of all of the teeth that I had extracted there had not been one which had given me any difficulty."*

I delivered the certificate to the Conselho before mentioned, and in about a week afterwards appeared before them and underwent an examination. Twenty days elapsed before I received an answer, and then in the form of a bit of parchment which they style a diploma, allowing me to practice the "art of Dentistry."

I do not consider myself at all honored by their decision, as any person who can extract a tooth, can obtain a license to practice, especially if he is a Portuguese; but with a foreigner they are more particular.

Among my things were a few small bottles containing medicines that I had brought from America for private use, and which they accidentally discovered; so, fearing that I might wish to practice as a physician they made a special clause, which expressly prohibits me from writing a prescription, under penalty of £50. Many of the questions asked me were really important, but their *total ignorance of practical dentistry* was evident from the great number of questions and remarks respecting the use of my instruments, and the manner of operating. On the subject of plugging teeth with gold, they were quite ignorant, in fact, so much so, that I was obliged to show them the *modus operandi*.

It is only necessary for me to mention one incident in proof of my assertion. The Portuguese dentists are in the habit of using lead or an amalgam for plugging teeth; and, a few days ago, one of them called on me, requesting me, as a great favor, that I would give him a little amalgam to plug a tooth with, as the patient was in a hurry, and he had no time to prepare any. I told him that I used gold only,

* To explain this it is only necessary to add, that *their* principal extracting instrument is the key.

at the same time showing him some specimens of plugging. He stood transfixed with astonishment, and after many exclamations of admiration, asked me, "*if I poured the gold in hot.*"

I trust that if there is any young dentist who thinks of visiting a foreign land, or even settling at home, and who has not received the highest honor which can be conferred on him by one of the Dental Colleges, which are to be found in no country but ours, that he will take warning by my experience and misfortune, and lose no time until he has obtained that best of all recommendations, *a collegiate attest.*

I am, my dear sirs, very truly yours,

W. C. STARBUCK, JR.

Lisbon, Portugal, April, 1854.

For the Dental News Letter.

CONTINUOUS GUM TEETH.

TO THE EDITORS OF THE "DENTAL NEWS LETTER"—*Gentlemen* :—
A Dentist from Brooklyn, Long Island, calling himself Dr. ——— has lately got out a patent here as the inventor or discoverer of the mode (having been in use for some years) of putting in "*continuous gum teeth.*" Now, we respectfully wish to inquire—is he the inventor? Who is the inventor? How long has it been known? Will you please give us the information; and if he is really entitled to the merit of it, we will give him all the honor due; but if not, we ask what right has he to assume it, and impose upon the public here. Let merit be rewarded, but humbuggery exposed. The Regents of the Royal University of Havana, have requested us to make the inquiry of some competent person in the United States, and we know of no one more capable of answering the inquiry than yourselves. Please excuse the liberty we have taken.

Your constant readers,

"SEVERAL DENTISTS."

Havana, (Cuba,) May 25, 1854.

To the above inquiries we answer, in substance, that the first that we heard of the "*continuous gum work*" was, if we remember correctly, in the summer or fall of 1850, when Dr. Hunter of Cincinnati, then on a visit to Philadelphia, intimated that he was about bringing out something that would astonish us, in the way of continuous gum; some of which work, deposited by Hunter, we subsequently saw in the World's Fair in London, in 1851.

At the meeting of the American Society of Dental Surgeons, held in Philadelphia August 5, 1851, Dr. John Allen, of Cincinnati, called

the attention of the Society to the subject of "uniting single teeth to metallic plates, by fusing a mineral attachment; specimens of which he exhibited, and for which the Society returned their thanks." At the same time he informed the Association that he had taken out a caveat to protect his invention.

As the gentlemen above alluded to have had a long controversy (and a suit is now pending,) on the subject of priority of invention, we will not venture to say which of the two is the inventor; but that any one other, in this country, than the above, made "continuous gum work," prior to the publicity of their methods, we have every reason to doubt; and the only patent for that kind of work, issued in the United States, was to Dr. John Allen.

We are therefore clearly of the opinion (and the above facts warrant the assertion) that the person alluded to in the above communication is not the inventor, but has patented another's invention.

J. R. M'C.

For the Dental News Letter.

WOMAN'S MOUTH.

BY W. T. TINKER, D. D. S., HAVANA.

The eye has charms—the polished brow,
 In beauty arch'd—the swan-like neck,
 So snowy white—the rosy cheek—
 The Grecian nose and dimpled chin,—
 Still, the lovely mouth out-charms all,
 When regular and beautiful
 Are its double row of pearls,
 Resplendent in their ruby arch.

Let diamonds in their silver beds,
 Darken—out-vie the noon-day sun,
 And rubies in their golden frames—
 Or choicest stones of earth or sea,
 Be-deck the ear, or bosom fair;—
 Still the mouth, the mouth's the charm!
 Coining the sweetest joys of earth
 The rippling fount of crimson hue,
 From which all pleasures sparkle—spring!
 Nature's first,—only master work
 Made *perfect by our noble art!*

For the Dental News Letter.

AWARDS AT THE WORLD'S FAIR.

MESSRS. WHITE & McCURDY.—*Gentlemen*:—The “short account” of E. Parmly’s connection with Jury F, of the Crystal Palace, in your April number, has attracted my attention, and I find it so far short of the whole truth, so ex-parte in its character, that I will, with your permission, lengthen it out a little, and supply your readers with the other side of the story.

It was my fortune to be associated with him, and what I complain of is that, according to my information and recollection, he has stated some things which did not occur, mis-stated others that did, and omitted circumstances which, to my view, give an entirely different complexion to the transactions of the Committee on Dentistry. Those who are familiar with the Parmlyan style of composition, will not expect to find the *whole truth* fairly told, in any thing that emanates from his pen.

The Exhibition of the Industry of all Nations, unlike most of the Fairs which have been held in this country, was not instituted for the purpose of bringing the works of artizans and artists into competition with each other, “but to draw forth such a representation of the world’s industry and resources, as would enable us to measure the strength and value of our own, while it indicated new aims for our enterprise and skill.”* In the circular of instructions furnished to the jurors, it is stated that the bronze medal “is to be given liberally, and rather as a mark of intrinsic than comparative merit,” and the jurors are also relieved from “the invidious task of deciding which is positively best,” among articles of nearly equal rank. And again—“It is the intention of the Commissioners, to reward excellence in whatever form it is presented, and not to give inducements to the distinctions of a merely individual competition.” The honorable mention was to be given “in cases where they (jurors) do not think it proper to award the medal,” and of course on the same principles. It is also admitted that firms may receive awards for articles exhibited, as well as individuals; neither was it made the duty of the jurors in such cases, to inquire which partner made the articles to be awarded. Nothing can be clearer, therefore, than that it was the duty of the jurors to make their awards to the *exhibitors*, wherever they found excellence exhibited.

When Dr. Trenor and E. Parmly were added to the jury, it was

* Historical Sketch in the Official Catalogue.

generally understood that they were both opposed to the principle of exhibitions of dentistry. It was also believed that one of them had personal feelings against some of the exhibitors; and it was known that neither had practised mechanical dentistry for many years, during which time great and radical changes have been made in the style and manner of working. For these reasons, there was great distrust and anxiety among the exhibitors, when it was known that these men had been added to the jury, and an attempt was made by them, as has been shown by E. Parmly, to have another, Dr. Foster of Utica, added. To this I had no objections; but when the question was put, in committee, whether Dr. Foster should be added, I refused to vote, as I did not wish to be identified with this question, while E. Parmly promptly voted NO. Dr. Trenor threatened to resign if Dr. Foster was appointed. This looks very much as though they thought that Dr. Foster would stand in their way.

Dr. Parmly correctly states, that at the examination of the articles "each exhibitor was asked by the committee, what he particularly claimed or desired more forcibly to call the attention of the committee to." J. G. Ambler was present, opened the case, and showed each piece separately, stating what Ambler & Avery thought worthy of an award. I mention this case, because there seems to be a misunderstanding as to whether Ambler claimed that they made the teeth, or only the mounting of them. Dr. Ambler said they did not claim anything except what they made with their own hands. I heard him say, "Gentlemen, we claim nothing for the teeth," and there was one other person present who heard the same. I mention this fact, because E. Parmly, near the close of his article, asserts that I told Dr. Trenor and himself, that I "saw Ambler making the very pieces now ascertained to have been made by D. H. Porter." It is in this way that E. Parmly seeks to discredit my word with the readers of your Journal, when he knows very well that I did not specify what part I saw either Ambler or Avery making. I was in their office several times, and saw both of them at work on the pieces afterwards exhibited, and I so told Trenor and Parmly; but they both know very well that I never pretended to have seen them carving or burning teeth; neither did I ever assert, as stated on page 148, in Parmly's article, that "the work exhibited by Ambler & Avery was done by Ambler," but only that I saw him at work on some of the pieces. What moral right has E. Parmly thus to pervert and misrepresent my language.

Again, it is also stated in E. Parmly's article, that at the meeting "to compare notes," after the examination of the articles, "C. C.

Allen was Secretary, and wrote down (*in no way dissenting*) each case as decided upon;” and that when we parted that night, “we were unanimous on every other case,” (except Ambler & Avery’s.) This is also a mistake. It has very little to do with the question, whether the awards were or were not properly made, but is related here for the purpose of injuring me, by making it appear that I did not act in good faith with my colleagues. He has twice before accused me of the same, and I denied it, and explained how it was, as follows: As Secretary, it was my duty to record the proceedings of the committee. As each case was called up, and its merits discussed, I expressed my opinion in favor of every case that I afterwards recommended in the minority report for awards. Finding that the other three were opposed to me, I recorded their decision without calling for a vote on each case, only to show my spunk by voting against them. This was the only course left for me, unless I played the part of either a factionist or a dough-face. For E. Parmly to reiterate the assertion that I did not dissent, and that when we parted we were unanimous, when he knows there was no formal vote taken, and after I have twice denied it in his presence, is, in my opinion, unbecoming the character of a gentleman.

E. Parmly next accuses me of violating confidence reposed in the committee, after twice requesting that others would not do so. This has as little to do with the merits of the exhibitors, or the justice of the awards, as the last charge, but is a petty scandal, not half true. In one of the circulars to the jurors is the following: “The Commissioners request that all the *decisions* of the juries shall be kept entirely private and confidential, until they are all published by the Commissioners.” I had alluded to this wish of the Commissioners once or twice as the committee were about separating, but never requested, as asserted by E. Parmly, “that all that had been *said* in committee should be considered strictly confidential;” but I agreed with the chairman, that all “acts” should be confidential. These perversions and misrepresentations are, if possible, more odious to an honorable mind, than bold and unequivocal falsehood. Neither Dr. Trenor nor E. Parmly dare assert that I ever alluded to any of the “acts” or decisions of the jury, until after they were published by the Commissioners:

At our next meeting, E. Parmly made the proposition to ascertain who made the work in Ambler & Avery’s case, &c., as related on page 147 of your last number. On hearing this proposition, he says, “G. C. Allen immediately rejected it.” This, again, is only half the truth. I did not reject it, or if I did, at first, immediately made to them the

following proposition, which he omits to mention, because it shows the perfect fairness with which I was actuated, and the desire felt by me to compromise, and make our report unanimous: "I will consent to submit the question to the Commissioners, whether or not it is any part of the duty of jurors to ascertain which partner made the different articles, when exhibited by firms, or others; or whether the award is to be made to exhibitors, as in the case of boots and shoes, daguerreotypes, paintings, &c., and if they answer in the affirmative, I will then accept your proposition." This was immediately rejected by them; they saw where the shoe pinched, and determined not to try it on. I contended that firms of dentists had a reputation for their work as much as individuals; that the reputation of Parmly and Duning belonged to both, though only one might have done the work, and illustrated my position by referring to the reputation of Waldo & Jewett, two eminent portrait painters. Finding that Trenor and Parmly would not agree to this doctrine, I then offered to take the original report of Prof. Buckingham, made before either of us had been added to the jury, with the modifications which he had consented to make, which were, to give bronze medals to Jones, White & McCurdy, and Chas. Abbey & Sons, and honorable mention to R. T. Reynolds, A. W. Kingsley and Ambler & Avery. This was also rejected by them. I then told them that I should be compelled to make a minority report, and if so, should recommend awards to be given to all whom I had recommended as worthy of them, at the former meeting of the committee. This I accordingly did, and handed it to the chairman of Jury F, who promised to submit it to the jury at its next meeting.

The jury was summoned to meet on the evening of the 12th December, but, after waiting until near nine o'clock, there were present only Prof. Renwick, Dr. Trenor, E. Parmly and myself. At this stage, Dr. Parmly says, "It was proposed by Prof. Renwick, that the whole should be referred to the Committee on Surgical Instruments." This is not true. I first proposed that both reports on dentistry should be referred to Prof. Renwick; to this no one objected, except himself, but he finally offered, if we were all willing, to *consult* the Committee on Surgical Instruments, and then report the decision to the Commissioners. To this arrangement we all consented, and as we were about parting, Prof. Carnochan, one of the Committee on Surgical Instruments, came in, to whom Prof. Renwick immediately handed the reports for his perusal. I did not understand that Prof. Carnochan was selected as "umpire" any more than any other one of the Surgical Committee;

but Prof. Renwick *was*, with permission to consult with the Committee on Surgical Instruments.*

In the published official list of the awards, it is stated that a bronze medal was given to Ambler & Avery "for the largest collection of Mechanical Dentistry." E. Parmly asserts that "there is not the shadow of truth or justice to support this announcement, as it is well known that Palmer & Brown, of Massachusetts, had a collection some half a dozen times as large as Ambler & Avery's. Now, there is a *shadow* of truth in the assertion of E. Parmly, and that is all; for it is a fact that Palmer & Brown's case was much larger, but it was filled mainly with large pieces of tooth material, such as spar, quartz, &c. There was also in it a large collection of tooth-powder and washes for the mouth, besides a great many blocks of teeth, made for show pieces, and not mounted; but the collection of work finished for the mouth, was much smaller than in the two cases of Ambler & Avery. It was admitted that these cases contained more specimens of excellent workmanship than any other, by all whom I heard speak of them, and all the other exhibitors expected that this collection would receive an award.

E. Parmly says, (while casting a slur upon C. C. Allen's conscience, with his usual charity and courtesy towards those who differ with him,) "he (C. C. Allen) would give a medal of high distinction to Ambler & Avery for *merely* exhibiting the work of D. H. Porter, or any body else." Fortunately, the following report proves this to be a falsehood. In reference to this case of Ambler & Avery, I can state that during all the meetings and examinations of the committee, there was not a shadow of proof that the work in Ambler & Avery's case was not made by them; but, on the contrary, I knew that much of it was, for I saw both at work on it. A portion of the same work had been exhibited at the Fair of the American Institute in 1852, had been recommended by Dr. J. Parmly as the best, and had received a gold medal; it had also been exhibited in Boston, Philadelphia, and at our State Fair, and in each of these places had received an award. Prof. Buckingham had also, in his first report, recommended the same award to this case that he had to Reynolds & Kingsley. I do not judge others, nor cast any imputation upon their consciences, but under all these circumstances I could not, as an honest man, do less than recommend it, and all the other superior workmanship in the Palace, for awards.

* See Prof. Renwick's reply to Dr. Trenor. in the New York Medical Gazette for June, with the certificate of John P. Richardson, Secretary to the jury.

E. Parmly states, that at our first meeting we decided to award to Jones, White & McCurdy silver medals, and to Reynolds and Kingsley bronze medals, &c. This is news to me ; but perhaps Dr. Parmly means, by WE, only himself and Dr. Trenor, as on a former occasion, pending a discussion in the American Society of Dental Surgeons, he said, "we all agree," &c., meaning, as he afterwards said, only himself and partner. All that was said at our first meeting, upon this subject, grew out of the consideration of Prof. Buckingham's report, which had been recommitted to the new committee, but we came to no decision that night, except to notify the exhibitors to meet us, and show their work, before we would decide on the merits of any. After this examination, we discussed the merits of all. Any sensible man will at once perceive the justice and propriety of this course, instead of deciding first, and examining the work afterwards.

The question now comes up, how happened it that Ambler & Avery received a medal when it was not recommended in either report. This question I cannot answer, except by saying that Prof. Renwick, with whom the two reports were left, so recommended it to the Commissioners, after examining the articles, and they saw fit to ratify it. Certainly no one could have been more surprised than I was when I saw it announced that they had received a bronze medal, though I never hesitated to pronounce their case, considering the great variety of excellent workmanship which it contained, the best on exhibition.*

Very respectfully, CHAS. C. ALLEN.

MINORITY REPORT.

To Jury F:—The undersigned being a minority of the committee to whom was committed the articles on exhibition pertaining to the Practice of Dental Surgery and Dental Mechanics, regrets to report that he has not been able to concur with the majority in the report which they have submitted.

So far as the majority of the committee have recommended the bronze medal or the honorable mention, the undersigned fully concurs ; but, guided by his own experience and judgment, and the circular of instructions, issued to the Jury by the Commissioners, he cannot see the justice of withholding awards from several other exhibitors, whose work, in his opinion, is quite equal to that recommended in the report of the majority.

* At the time the editor of the Dental Recorder examined the articles in the Palace, the large case of Ambler & Avery was not there, so that its contents were not noticed in the Recorder with the others.

The Commissioners state that "it is their desire that the bronze medal (and may we not infer the honorable mention, also?) be given liberally, and rather as a mark of intrinsic than comparative merit." They further say, that "there may be many articles of nearly equal rank in each class," and in such cases "they would prefer that a medal should be given to each exhibitor *holding nearly equal rank*, only specifying the point for which the medal is given, as for general excellence, superiority of finish," &c.

Guided by these liberal instructions, the undersigned would feel that he was doing great injustice if he did not call the attention of the Jury to case No. 132, exhibited by C. W. Ballard, of New York, and case No. 170, by H. B. Hale, of Boston, both containing specimens of gold fillings in the natural teeth. These fillings are much superior to those inserted by a large majority of Dental Surgeons, in the mouths of their patients, and better than any the undersigned has ever seen exhibited in New York. It is believed that their exhibition has done much to excite emulation in this branch of practice, and the undersigned would recommend to each of these exhibitors the award of an "honorable mention," for *Superior Gold Fillings in the Natural Teeth*.

The undersigned would also invite the attention of the Jury to the work exhibited by Ambler and Avery, in case No. 158. This case contains a great variety of Dental Mechanism, embracing artificial teeth set upon gold plates, after almost every method now known and practiced among dentists. It also contains a new method of attaching springs to double sets of teeth, in such manner that they may be removed or attached in a moment, at the pleasure of the wearer. Ambler & Avery have also adapted instruments for the purpose of facilitating the insertion of teeth by atmospheric pressure, which are ingenious and useful, and have been given to their brethren in the profession without charge; they are also exhibited. The Jury are requested to compare the work exhibited in this case with that recommended for awards by the majority of the committee, and, if found equally worthy, give to the exhibitors the same award that is made to Reynolds & Kingsley, for similar work. The workmanship is of a superior character, and no reasons are given in the report of the majority for passing this case, for which Dr. Buckingham, in his first report, recommended that a medal be given for *Dentistry*.

Case No. 115, exhibited by James Fowler, of New York city, contains several pieces of superior workmanship, for which the undersigned would recommend an honorable mention.

The undersigned would also recommend an honorable mention to Palmer & Brown, exhibitors of case No. 145, for *Superior Workmanship*, on a Double Set of Teeth. It is located in the centre of their case.

Case No. 159, by Warren Rowell, of New York city, contains an Artificial Palate, very difficult to construct, but which answered an excellent purpose, and was worn for several years with great comfort, restoring completely the articulation of the patient. An honorable mention is recommended to Mr. Rowell for *Artificial Palate with Teeth Attached*.

J. Branique, of Brooklyn, N. Y., exhibits four cases of irregular teeth, with castings, showing the situation and condition of the teeth before and after the operation for reducing them to regularity. His success in these cases was very marked, and the undersigned would recommend an honorable mention to him for *Regulating Misplaced Teeth*.

The above is respectfully submitted for the consideration of the Jury.

(Signed,) CHAS. C. ALLEN.

For the Dental News Letter.

MESSRS. WHITE & McCURDY.—*Gentlemen*:—It was my intention (as stated in the Dental Recorder) to have answered E. Parmlý's ungentlemanly, false, and malicious attack upon me, published in the April number of your Journal, and had prepared said answer; but, inasmuch as Dr. P. has republished some portions of that libellous article in the Dental Recorder of May last, declaring his ability to prove what he asserts, saying, "J. G. Ambler having commenced a law-suit against me, I am happy in saying we shall have a much better opportunity of establishing the truth of our respective statements, in a Court of Justice, than we possibly can have in the Dental Recorder; and where I pledge you, beforehand, to substantiate in strictest truth every word of the 'tissue of falsehood and misrepresentation.' " With a view of gratifying Dr. P. with such an opportunity, untrammelled by a controversy in a public print, and by the advice of friends, I have concluded to defer my answer, until he makes good his assertion above referred to, or, at least, has had afforded him an opportunity for so doing; until which time, I trust your readers will suspend their judgment, as to the truth and justice of the Doctor's attack upon me.

Yours, truly, J. G. AMBLER.

31 Washington Place, New York, June 16, 1854.

For the Dental News Letter

ALLOYING GOLD FOR DENTAL PURPOSES.

BY T. L. BUCKINGHAM, D. D. S., M. D.

MESSRS. EDITORS:—The necessity of every dentist being able to prepare his own gold, must be obvious to every one who has the least knowledge of dentistry; particularly in alloying it. He should be able to do this to the smallest fraction, and also to give the reason for, and his manner of doing it.

We are often asked how we prepare our gold plate. This question is asked by some who are ignorant of the preparation of gold in any way, and they sometimes express considerable surprise, when they are told that we always add a certain amount of alloy to the coin, to render it fit for our use.

We are asked this question by others, who want information, and wish to find some rule by which they can make alloys properly. Again, the question is asked by those who understand the process themselves, and wish to know whether we understand it as we should, or probably ask it for the same reason that they ask many other idle questions, merely to pass away the time.

To all these we should be able to give clear and intelligible answers. There is nothing that detracts so much from professional reputation, as to be ignorant, or to give unintelligible answers to questions relating to subjects connected with the profession. A dentist may not be as well informed upon other subjects as he would wish to be, for this he can and will be excused, but if he does not understand what he professes to practice, or what is nearly as bad, practices only by a certain routine, he can plead no excuse but ignorance, and that too upon a subject he publicly professes to understand.

I shall endeavor, in this article, to give a few rules for making calculations for alloying gold. These may appear, to those who understand the process, like some simple problems intended for school boys, but I am of the opinion, that if we were to give more of our practical manipulations to the profession, and not wait until we had something great and important to communicate, we would do the profession a great deal more good.

But alloying gold is not a small item to the dentist. He can very easily see this when he sums up his bills at the end of the year, and finds those for gold to be greater than all the rest put together. And when we consider that probably not one in ten of those who alloy their gold, do it by calculation, but by a certain routine, we see the importance of being able to make the calculation. I have been told by

some, that they add a five cent piece, some ten, and some as high as a twenty-five cent piece to a five dollar piece of gold, and yet all of them profess to use gold as fine as it is used for our purposes.

I am sorry to say, that in all our works upon dentistry I have not been able to find any rules for making these calculations. They tell us if we wish to make eighteen carat gold, to add to every eighteen parts of pure gold, six of alloy; or if we want nineteen carats, to add five to every nineteen of pure gold. But, as the gold we usually melt is not pure, but is already alloyed, although not sufficiently for our purposes, how are we to make a calculation to reduce it to the proper standard? It would not be advisable to refine it first, and then alloy the pure gold, when our purposes can be accomplished without this trouble.

It is first necessary to know the standard of the gold we intend to alloy. I will not attempt here to explain how we can ascertain the standard of an unknown quality—this would lead us through the whole process of refining—but I will take the coins, the standard of which is given by the government. To alloy, it is necessary to know the quantity and quality of the gold to be alloyed. If it is American coin (this is the only kind I shall speak of in this article) we may take the standard given us by the U. S. Mint. If it is foreign coin, we can easily ascertain the quality by some of the published tables.

There is an erroneous impression entertained by many, that all the gold coin of the United States is twenty-two karats fine, and it is generally alloyed as being that quality. When Congress, in 1792, established the Mint, it fixed the standard of the gold coin at twenty-two karats, or that eleven-twelfths should be pure gold. As they estimate quality by thousands, and not by karats, this corresponds to nine hundred and sixteen and two-thirds thousandths; or that there should be nine hundred and sixteen and two-thirds parts of pure gold in every thousand of coin. The alloy is to be composed of silver and copper, "provided the silver do not exceed one-half of the whole alloy."

There is nothing in the law definitely defining the amount of silver to be used. It cannot be more than one-half, it may not exceed one-tenth of the alloy. This accounts for the color of our gold coin varying so much. Until recently, there was a considerable amount of silver used in the alloy, but the recent coinage contains very little silver; the alloy is nearly all copper.

The reason why copper is used so much at present, is because the value of the alloy is never estimated; a twenty dollar piece containing 464.4 grs. of pure gold and 51.6 grs. of copper, is worth just as much

as it would be if one-half of the 51.6 grs. were silver. The value of the silver in a single dollar would be a very small item, but where millions of dollars are coined it really amounts to a very large sum.

This standard (of 22 karats) continued until the end of July, 1834, when the standard was changed, and the coin made to contain only 899.225 thousandths, which is a little over twenty-one fifty-eight hundredths karats.

In January, 1837, the standard was again changed, and fixed at nine hundred thousandths, or twenty-one and six-tenths karats. This is the standard of all our gold coin coined since 1837, viz : nine-tenths of the weight is pure gold, instead of eleven-twelfths, which was the standard of the first coinage.

We can easily see the importance of knowing the standard of the coin we melt. If we were to take some of the recent coinage, and estimate it at twenty-two karats, and alloy it as being such, to reduce it to eighteen karats, we would have our plate considerably below the quality we desired.

We should never get the smallest fraction below the standard we profess to use. We can always depend upon the standard of the gold coin being what the law requires; for the law is so stringent upon this point, that no person but an actual counterfeiter would be willing to run the risk of being detected, for the small profit that might be derived from it.

The weight of the coin we cannot always depend upon with the same certainty that we can upon the quality; for, although the coin is a uniform weight when it comes from the mint, it undergoes a perpetual change afterwards, from abrasion. This is much greater in small than in large coin, for two reasons: first, the small is handled and circulated much more than the large; and, secondly, there is a larger surface, in proportion to the amount of metal presented to friction, in the small than in the larger coin. As we always weigh our coin before alloying it, we can easily ascertain how much has been lost.

I will now give a few rules for making calculations for reducing coin to a lower standard. Suppose we have 516 grs. of gold, the standard of our coin, (a twenty dollar piece,) how much alloy must be added to reduce it to eighteen karats? We first find how much pure gold we have in 516 grs., as one-tenth is alloy (for this corresponds to nine hundred thousandths) all that is necessary is to divide 516 by 10, we have 51.6 as the result, which is the amount of alloy in the coin; subtract 51.6 from 516 leaves 464.4, the amount of pure gold. The result would have been the same if we had made the calculation by

multiplying 516 by 900 and dividing by 1000, for in every thousand parts of coin there is nine hundred of pure gold.

But, as the gold coin which was coined from the end of July, 1834, to January, 1837, did not contain quite as much gold as it did either before or after that date, it becomes necessary to make a different calculation. We do it by the same rule, only substituting 899.225 for 900. This makes a very small fraction less, only a little over three-quarters of a grain less in one thousand.

The coinage previous to 1834 contained eleven-twelfths of pure gold, or nine hundred and sixteen and two-thirds in every thousand. Now, to find the pure gold in this, all that is necessary is to multiply by eleven and divide by twelve. If we multiply 516 grs. by 11, and divide the product by 12, we have 473, the amount of pure gold contained in the lot. We should in all cases, first find how much pure gold the lot contains, this we can very easily ascertain, when we know the quality of it. If it is estimated by karats, and we multiply by the karat the coin is, and divide by twenty-four, we will always have the amount of pure gold contained in the lot.

To alloy pure gold, we multiply the sum by the difference between the karat it is intended to be and twenty-four, and divide the product by the karat. Thus, if we intend to make it eighteen karat fine, we multiply by six and divide by eighteen; if it is to be nineteen, multiply by five and divide by nineteen; or seventeen, multiply by seven and divide by seventeen. Example—if we multiply 464.4 by 6 and divide the product by 18, we have 154.8; this is the amount of alloy to be added to 464.4, to make it eighteen karats.

There is danger of running into an error here. It takes 154.8 to alloy 464.4 of pure gold, to make it eighteen karats, but as the coin which contains this amount of pure gold, (a twenty dollar piece,) already has in it 51.6 of alloy, it is evident that this amount must first be subtracted from 154.8, this leaves us only 103.2 to be added.

I have known more errors to be made at this point than at any other, and to guard against these, we should always weigh our lot after we have made the calculation. In fact, we should always weigh the lot before it goes into the crucible, and also after it comes out, to see if we have lost any.

There are other rules by which we may make these calculations. If we divide the amount of pure gold by three, it will give us the amount of alloy to make it eighteen karats. Or if we divide the present gold coin by five, it will give us the amount to be added to make it eighteen karats.

THE DENTAL NEWS LETTER.

JULY, 1854.

Sponge Gold.—Mr. A. T. Ennis, Dentist, of Oxford, N. C., in a letter to us, asks whether sponge gold will answer to fill up cavities which have been imperfectly filled with foil, as well as many other questions relative to its properties as a substance for filling teeth. To answer many of these inquiries, we would respectfully refer him to the April number of this Journal, where he will find two able papers on sponge gold, by Drs. Townsend of Philadelphia, and Ballard of New York; and also, in the April number of American Journal of Dental Science, by Dr. W. H. Dwinelle. We have been using the various specimens of sponge gold some time, and while we do not wish to go off in ecstasies about its peculiar qualities over gold foil, in being capable of being rolled out into plate or wire, the same as melted gold, we would say that it can be applied in some cases very well, but it will take time to decide as to its comparative merits with gold foil. That sponge gold will weld, and roll into plate, does not make it *necessarily* better than foil, for the reason that packing it into a cavity and rolling it out into plate are two things. When it is put into a cavity in mass, it cannot be made hard or dense to any distance below the surface, and if it is used in small particles it requires too long a time to fill a cavity, and as it requires so long a time, the mouth, as a general thing, becomes too wet to allow the plug to be finished—and without great care it cannot be made to adhere again, so as to continue the completion of the plug; and if the plug can not be made much more solid than a foil plug, it will not remain in the cavity as well. The dampness of the mouth or the tooth will break up the *texture* of the plug, and cause it to crumble out. We have had this to occur with us in many instances, and it has also occurred to others, who are much in favor of its use. We have had, on several occasions, to remove plugs of this preparation, on account of the teeth giving trouble after they were plugged, and found that the internal portion of the plug had become soft, or, as was remarked by a friend, like brick dust. An *ordinary* foil plug is much better than a *good* sponge plug. We have plugged some large cavities on the buccal surfaces of the molar teeth, and polished them well, and made them as hard as we knew how, and we can apply as much force as almost any other dentist, having a

goodly share of muscular strength, and then applied the plugging forceps, and cut the plugs to pieces.

It is believed by some, that a plug must be *impervious* to dampness ; this cannot be, or if it were, it would not be necessarily a perfect plug ; dampness must permeate a plug to some extent, or the dampness will force around the plug, and displace it sooner or later. We know well that a distinguished operator in our city loses more *hard* plugs than *soft* ones, on that account ; his plugs are therefore better than the teeth he puts them in. We do not wish to be understood as not advocating hard plugs, but we believe the most perfect plug is one that is of about equal porosity to the dentine ; with a good cavity, it will remain in longer than a harder plug, especially in the lateral portions of the teeth. A foil plug will not be broken up by such permeability, and a sponge plug will. No reasonably good operator loses a plug by softening, but by the margins of his cavity giving way. The constant expansion and contraction of the plug and the tooth will cause any plug to give way, sooner or later, and until we get a substance that will expand and contract with the tooth, so as not to loosen its margins, we will have some of our highest specimens of art crumbling away under our eyes.

J. D. W.

AMERICAN DENTISTS ABROAD.

It is a subject for reflection, as well as of some pride, that American dentists should succeed in the practice of their noble art in some of the principal cities of the old world. We know that, on several occasions persons have made it a part of their visit to Europe, to get their teeth operated upon in some of the old cities, where it appeared to them that the arts had, as a matter of course, reached a high point of perfection ; and in some of those instances that we know, they did not obtain as satisfactory operations, among what was considered the first dentists there, as among those who only ranked as medium here ; and others were surprised to find that some of the most distinguished dentists in Europe were Americans.

There does seem to be a very great difference in the *style*, as well as *method* of operating, between the American and European dentists, and that, independently of preference, would make the traveling American public seek the American dentist. We therefore give the residences of those American dentists, of whom we have any knowledge, to enable the dentists throughout the United States, to refer their traveling patients while abroad ; this is an important matter, and one that American dentists should give attention to. Chevalier Thomas W.

Evans, of world-wide reputation, is located at Paris, France. Dr. Abbott at Berlin. In connection with Dr. Abbott is Dr. Dumont, a native of Belgium; both these gentlemen are graduates of the Baltimore Dental College. Dr. Ballard at London, formerly of Naples. Dr. North, Vienna. Dr. Bazier, Gottenburg, Sweden, formerly of Philadelphia. Dr. Mackeehan, Madrid, Spain. Dr. Starbuck, Lisbon, Portugal. Dr. Horner at Paris, France, formerly of Philadelphia. A well-educated young dentist, Benjamin Cohen, D. D. S., has recently left this country to locate, in all probability, in some part of Europe; he is a graduate of the Philadelphia Dental College; he was also demonstrator of mechanical dentistry in that institution, during its first session, and discharged the various duties of the position with satisfaction and ability. He is a native of Hamburg, Germany, was with an English dentist three years, but came to this country in 1848, to educate himself as an American dentist. We hope that his success will be equal to the perseverance which marked the history of his studies. If there are any other American dentists, whose names we have not mentioned, we would be glad to have them forwarded to us. J. D. W.

EPIDEMIC TOOTHACHE.

Under the head of the "*Season*," the intelligent editor of the "*Recorder*," Dr. A. Hill, informs his readers that he has observed, for the last six months, a decided and "peculiar" irritability of the dental organs, and that "operations, ordinarily successful, have been attended with unusual difficulties, and in several instances signally failed;" and inquires whether the "profession in other localities have been conscious of the same peculiarities, at any time during the same period."

We would answer for ourselves, that we have noticed the same thing, and have always termed it epidemic toothache; we find in our note book, that the most TERRIBLE epidemic prevailed from the middle of February, 1854, until the 20th of March; every nerveless tooth or root seemed to be exciting more or less irritation, and nerves that had evidently been exposed for some time, were attacked by inflammation; the whole mucous membrane of the mouth, as a general thing, presented signs of irritation, and *canker ulcers*, and the gums spongy and sensitive. We noted the same phenomena, beginning Nov. 27th, 1853, and lasting for two weeks; this period was remarkable for cases applying from inflamed nerves, under plugs that had been put in where there was but a thin plate of dentine between the plug and pulp. Beginning the 5th of July, 1852, the same kind of epidemic occurred, and another is prevailing at this present time, beginning June 10th. We have spoken of this matter to our dental friends and patients, on many occasions, and

always proceed with cases of treatment where we attempt to destroy nerves or plug nerveless teeth, during this period, with great caution. As a general thing, the wind has been from the north-east; but frequently these epidemics set in a few days before a storm, or hot spell. It would seem reasonable, that the ordinary progress of decay would develop cases of toothache with some regularity, if it depended solely upon the pathological conditions of the teeth, gums and alveolo-dental membrane, as induced by the regular progress of disease; but every one will doubtless have observed, that there will be more cases of toothache applying at some periods, in a few days, than would apply at other times in as many weeks. As this is true, the toothache, as a general thing, depends upon the temperament of the patient, their pursuit, and a *peculiar susceptibility*, as remarked by Dr. Hill, "under the influence of certain atmospheric changes." It is constantly contended by medical writers, that when any marked influence is prevailing in the system, superinduced by cold or otherwise, that it will attack the weaker organs; such being the case, why not hail as a good fortune to have two or three *achers* in the gums at all times, to protect the more important organs from the destructive attacks of such morbid influences? We proposed, a few years ago, to extract a large molar for a young lady, the daughter of an eminent medical gentleman of our city, and he objected to it, believing that it was a protection against more important organs being attacked by colds. Violent inflammation of the tonsils is, doubtless, very frequently a preventive of bronchitis.

J. D. W.

"*Block Work.*"—Under this caption, a writer, over the signature of "*Progress*," informs us that he is engaged in making moulds, for moulding blocks of any description, and inquires of us, despairingly, whether we think it will *pay*; he also inquires whether we think "Allen's" or "Hunter's" patent will "revolutionize the *modus operandi* of putting up operations; or will the gutta percha gums, teeth and all, knock manufacturing dentists, great and small, into one massive *pie*, and *bake* us all up brown." We would answer the first inquiry by saying, all really good and useful improvements pay the inventors, and particularly if the improvements are made public in a proper manner, and not practiced upon the public as secrets.

In answer to the second, we would remind our inquirer "that revolutions very frequently *progress* very slowly, and that we have no doubt that while continuous gums *continue*, the old block work, well done, will still be in great demand, and hold its "steady way." J. D. W.

PORCELAIN TEETH.

SOME FACTS IN CONNECTION WITH THEIR FIRST MANUFACTURE ABROAD AND AT HOME, AND THE EXTENT OF THEIR MANUFACTURE AT THE PRESENT TIME, IN OUR OWN COUNTRY.

At a recent meeting of the Pennsylvania Association of Dental Surgeons, the subject, "When, and by whom were porcelain teeth first made," was suggested and discussed, and many items of interest were elicited, but no certain data furnished. We trust, the suggestion of the appointment of a committee to collect all the facts in the case, and embody in a report, will be carried out, as it is a subject of more than ordinary importance; and the sooner such inquiry be made, the better, as there are some gentlemen yet in the profession, or who have been—who are passing away—from whom much information might be obtained, and we would here say, that if this article meets the eye of any such persons, we would esteem it a special favor, if they will give us such information as they may be in possession of.

From the importance of the subject, we have been induced to give it some reflection, and have devoted a little time in looking up authorities; but nearly all we have been able to obtain in this way, has reference chiefly to operations in this branch in Europe.

What we may say on the subject, is not at all designed to anticipate the action of a committee, if such should be appointed, but to assist them in their labors, if in our power.

We now give some of the authorities we have been privileged to examine:

Practical Observations on the Human Teeth, by R. Wooffendale, Surgeon Dentist, Liverpool; published in London, 1783. pp. 158.—This work treats fully of dentistry, as practiced at that early day, and contains some curious as well as amusing items, in regard to the manner of treating and supplying teeth, such as the following:

"When a tooth gives pain and the nerve can not readily be destroyed, to take the tooth out, cut the decayed part away, stop the hollow with gold, and then replace it." It speaks of forming "artificial sockets" to pivot teeth on, when the natural fangs are gone; describes the old method of securing artificial teeth in the mouth, by "ligatures of silk, unbleached thread, Indian weed (or sea grass), silkworm gut," etc.; of retaining whole sets in the mouth with "springs of gold;" alludes to ligatures acting as a weight upon the natural teeth, the which, by constant motion of the artificial teeth, will undoubtedly be pulled out, etc.; but in the whole work, there is not the slightest intimation given of the discovery or use of porcelain teeth.

A Treatise on the Management of the Teeth, by Benjamin James, M. M. S. S. Boston, 1814. pp. 141. The only allusion made by this author to porcelain teeth, is as follows :

“Artificial teeth, of a French invention, have been preferred in Europe, from their being made of earthy substances, and because they neither decay nor affect the breath ; they are, however, more brittle, less natural, and more expensive than the kind in common use ; and, indeed, nothing is necessary but cleanliness and frequent rinsing of the mouth, to render the common artificial teeth as sweet and as durable as any others.”

We now turn to the following French authors, and give such selections as bear upon the subject.

M. Audibrán says,* “the manufacture of these teeth (porcelain) was suggested, if not practiced, by M. Fauchard as early as the year 1728,” and that he probably received the idea from the celebrated Reaumer, who contributed so powerfully to the establishment of the Royal manufactory at Sèvres. “The suggestions of Fauchard do not appear to have been much noticed for many years, or were entirely forgotten.” “An apothecary of St. Germain,” says Mr. Audibrán, “by the name of Duchateau, was the first, in modern times, who made porcelain teeth.” Duchateau communicated his discovery to the Academy of Surgery in the year 1776. He and his successors kept a knowledge of the mode of fabrication a secret. M. Dubois Chément carried the art to England. The mode of their fabrication was finally made public by M. Dubois Foucou, who contributed powerfully to the propagation of this new mode of making artificial teeth. M. Fonzi made some very handsome improvements upon these teeth, as they had been previously made by MM. Duchateau, Dubois Chément, and Dubois Foucou, for which the Atheneum of Arts in Paris, after a strict examination of them, decreed him a medal and a crown ; according to the terms of the report of a commission appointed for the purpose of examining these teeth, and which was the maximum of their recompenses. This was done March 14, 1808.†

M. Fonzi submitted his invention to the Academy of Medicine, who confirmed the report of the Atheneum of Arts.

In Delabarre‡ we find it stated that M. De Chément, a surgeon of Paris, in 1787 received from the elder Darcet the idea of coloring the

* Fitch's Dental Surgery, 2d ed., p. 415.

† See Audibrán, page 47.

‡ The translations from Delabarre, Maury and Desirabode, have been kindly made for us by Dr. C. A. Du Bouchet.—ED.

enamel, instead of painting. He presents a memorial to the Academy of Surgeons, and to the Society of Medicine in 1789, and takes out a patent for fifteen years. Some dentists, seeking a quarrel with him, attribute the discovery to Duchateau of St. Germain; and Dubois asserts that mineral teeth are unhealthy. MM. Saye and Darcet, by actual experiments, prove these assertions to be erroneous. Chement goes to England, and takes out a patent there also.

In the collection of patents of inventions, published by order of government, is to be found the memoir descriptive of mineral teeth.

Notwithstanding the field opened by Chement in 1789, for the benefit of French dentists, they continued to insert artificial teeth of animal substances until 1808, when Dubois Foucou, whose opinion had previously been contrary to mineral teeth, recanted, and published a pamphlet, describing his preparations for making mineral teeth; but the committee disapproved of his teeth, and in 1818 reported favorably on the ferro-metallic or calliodontes of M. Fonzi. After using for a long time Fonzi's teeth, M. Delabarre invents the "continuous gums."

Maury says, "in 1774 Duchateau, an apothecary of St. Germain, was the first to think of the use of porcelain for artificial teeth. In combination with several distinguished artists, among whom was M. De Chement, a dentist of Paris, (Duchateau being totally unacquainted with the dental art,) his success at first was but indifferent, but in 1776 he communicated his process to the Royal Academy of Surgeons of Paris; his communication was received with a vote of thanks. M. De Chement having improved upon Duchateau's preparation, inserted several sets; and, about twelve years after, obtained from Louis the Sixteenth a patent. His claim to the invention was disputed by Duchateau, and several others, who instituted suit against him; which suit they lost, as they had no legal title. It would seem, then, that we are indebted to M. De Chement for the propagation of porcelain teeth. Mr. Fonzi is the first who manufactured single porcelain teeth."

Desirabode states, that "although some say the invention of mineral teeth belongs to the apothecary of St. Germain, named Duchateau, in 1776, and others attribute it to Dubois Chement, a surgeon of Paris in 1789, Fauchard is entitled to the merit of the discovery. Bourdet, in his work published in 1756, says that he has used the pink enamel of Fauchard for gums, consequently we consider Fauchard the inventor; then Duchateau improves the manufacture of mineral teeth; Dubois Chement, by accident, gets hold of the secret, which he further improves and gives as his own in 1789. His teeth are decried by Dubois Foucou, who, fifteen years later, comes out in favor of mineral teeth, and gives

to the profession all his recipes in 1808, to excite emulation. Fonzi, in 1818, was the first to manufacture single mineral teeth."

From all of this, we see that Audibran and Desirabode are of the opinion that Fauchard is the inventor of mineral teeth, although Audibran is not so positive as to his having made them, but says, it "was suggested if not practiced by Fauchard, as early as the year 1728." While Maury asserts that to Duchateau the honor belongs; and we confess to the opinion, that as Duchateau was the first to make public the manufacture of mineral teeth in 1776, he is entitled to the credit thereof. That De Chement obtained a patent, is not positive evidence that he was the inventor. A patent is positive evidence of the teeth having been made, but not as strong evidence that the patentee was the first to make them; but to De Chement belongs the honor of "propagating porcelain teeth."

It will be noticed that nearly all agree that M. Fonzi was the first to make single mineral teeth; from this we conclude, that all made prior to Fonzi were blocks baked upon a platina plate, similar in character to a set of teeth made in France for Aaron Burr, which many in the profession, we presume, have seen.

In Harris' Dental Dictionary we find the following, which we copy from a short biographical sketch of Dr. A. A. Plantou, who, the writer states, came to Philadelphia in 1817:

"It is to Dr. P., so far as the author has been able to ascertain, that we are indebted for the introduction of mineral teeth in the United States, and also for many improvements made in their fabrication, as is shown by a certificate of approbation granted him by the Medical Society of Philadelphia in 1822."

We have no doubt that Dr. Plantou was the first, or among the first to use the French teeth in this country, and among the first, if not the first, to make "improvements in their fabrication."

The Family Dentist, etc., etc., by Josiah F. Flagg, M. D., M. M. S. S., Surgeon Dentist. Boston, 1822. From this work we quote as follows:

"Artificial teeth have been formed of various substances, but those which are most perfect, are made of the teeth and tusks of the Hippopotamus, or sea-horse, or from the teeth of some domestic animals. Teeth made of ivory (the tusk of the elephant) or bone, are very imperfect: they have no enamel, are soft, soon become discolored, and begin to decay, and unavoidably render the breath offensive. The mineral or china teeth are also very imperfect; they have an opaque, earthy

appearance, are brittle, and the sensation they produce, when brought in contact with the natural teeth in mastication, is very disagreeable."

It will be remembered, that all the mineral teeth made, up to perhaps 1831, were of the opaque, clay body, and more after the appearance of split beans, both in color and shape, than any thing else we can liken them to, (especially is this true of the French teeth;) it was, therefore, no wonder that they did not meet the approbation of practitioners generally, who continued the use of sea-horse tusk; but it was a great discovery, as the result has proven. As to whom is entitled to the largest amount of credit, for the great improvements made upon porcelain teeth in our own country, it would be impossible to say, as many contributed their mite; the following, however, throws some light on the subject; and we would here return our thanks to Dr. McIlhenney, for the prompt and cheerful manner in which he answered our questions.

PHILADELPHIA, June 7, 1854.

Dr. JOS. E. McILHENNEY, Philadelphia.

Sir:—Permit me to propound to you the following questions, to which answers would be very acceptable.

Yours respectfully,

JNO. R. McCURDY.

1. When were the first mineral teeth made in the United States, and by whom.

2. When did you first commence experimenting in the manufacture of mineral teeth?

3. At what period did you insert the first set of porcelain, of your own make, and for whom?

4. If any others, who were making teeth at the same period, either in Philadelphia or elsewhere in our country?

5. When did you first make the translucent body?

And any other facts, in this connection, that may be of interest.

1st. This question is answered in the following.

2d. I commenced my experiments in the month of October, 1826.

3d. During the spring of the year 1827, I successfully introduced and inserted teeth of my own manufacture; for whom, it is impossible to state.

4th. Charles Peale, then in his eightieth year, made experiments, and inserted some teeth; specimens of which I have in my possession. Mr. Plantou, induced by the receipt of some French teeth, was experimenting at the same time; within my knowledge, this embraces all who were engaged in such investigations in the United States.

5th. The translucent body was first used in the winter of 1830 and '31, by myself.

At the period I commenced the manufacture of porcelain teeth, the few dentists then in the city were decidedly averse to their introduction; the mechanical construction being so imperfect, led to the belief they could not be worn with comfort to the patient.

During the course of the year 1828, I exhibited a set of teeth to Doctors Hudson and Harrington, who expressed themselves perfectly satisfied of their adaptation to use, and recommended their patients to my office.

I was at that time associated with Mr. Van Pelt, but in the above remarks, have spoken in the singular number, as that department devolved exclusively upon myself. Those who now enjoy the benefits and experience of the labors and discoveries of that early period, can know but little of the difficulties encountered at their first introduction. Then we had nothing to guide us, either in the manufacture or mechanical arrangement of the teeth.

The investigations into the locality of the raw material, the preparation of it, and the union of the articles proper for the formation of the body, required no small share of persevering industry and courage to withstand the innumerable disappointments.

For myself, I can say, my efforts were unaided, and therefore advancement necessarily slow, my knowledge being gleaned from the best of teachers—"experience."

Respectfully, your obedient servant,

J.E. McILHENNEY,

No. 223 Arch street.

To J. R. McCurdy, D. D. S.

Mr. J. R. McCurdy.

BROOKLYN, June, '54.

Dear Sir:—In reply to your letter of inquiry about mineral teeth, I cheerfully give you the little information in my memory. A little over thirty years ago, while I was a student with the late Dr. H. H. Hayden, of Baltimore, a French gentleman (the elder Mr. Plantou, I believe,) came to his office to exhibit some mineral teeth which he had manufactured, either in Philadelphia or in Paris; and said, I believe, they were such, in all respects, as were being made at that time in Paris. The enamel of the teeth was white, void of any thing like transparency or semi-transparency; and Dr. H. did not see fit to take or use any of them, they not being sufficiently natural in appearance, in his opinion. A year or two after the above, Dr. Hudson, of Philadelphia, the

then most celebrated dentist in that city, procured some mineral teeth from Paris, which were coarsely made, but which were more natural in appearance, and of which he set many; and when he sold them to other dentists to set, he charged them a *dollar* a tooth. They were such, however, as no one at this time would receive as a gift. About this time, a dentist in Baltimore made and set some mineral teeth, as he called them, which were coarse and ugly to a proverb.

About twenty years ago, as well as my memory serves me to say, a gentleman—perhaps Dr. Harwood—from Boston, called at my office in Philadelphia, and exhibited some mineral teeth that were a very great improvement upon any I had then previously seen. They were inferior to such as are now made, but, at that time, might be justly deemed a very great acquisition to our art.

The improvements that have been made within the past fifteen years, I presume, are well known to your firm, and of course require nothing from my pen.

Yours respectfully,

D. HARRINGTON.

To questions put to Dr. Ely Parry, of Lancaster, he replies to the following effect:—That he cannot say, certainly, when the first mineral teeth were made in this country; but, from a statement made to him by his preceptor, the elder Plantou, it would appear that he made them as early as 1819. Mr. Plantou and the elder Mr. Peale were experimenting simultaneously, without the knowledge of each other's operations, until they were apprized of it by the potter whom each had selected to burn their teeth.

Mr. Plantou claimed priority, but the statement made by the present Mr. Peale, at the collation given at the first commencement of the Philadelphia College of Dental Surgery, Feb., 1853, leads to the supposition that his father may have been the first to succeed, of the two named, in making mineral teeth, but, if so, he must have made them prior to 1819, the time when Dr. Plantou claimed to have introduced porcelain teeth in the city of Philadelphia.*

Doubtless many in our country could contribute some facts, in connection with this matter, which would be greatly interesting, and we would have addressed similar inquiries to others had time permitted.

We cannot forbear quoting a paragraph or two from the following work, which is somewhat characteristic:—

* Whether by the term "introduced," we are to understand manufactured or imported, is a question we cannot determine.

Outlines of the Anatomy and Physiology of the Teeth, &c. &c., with Practical Observations on Artificial Teeth, by David Wemyss Jobson, Edinburg, 1834. pp. 271.—"Artificial teeth have also of late years been made from a porcelainous substance, and under the name of "mineral" and "terro-metallic" teeth, have afforded an extensive range for empirical deception. The attraction held out is their alleged "incorruptibility," by which term the unwary are entrapped, and led to believe that teeth of this description are much more durable than the natural ones. The very reverse of this is the case; for, although they are not subject to change of color, from their vitreous substance being impervious to the saliva, yet they are in every instance so brittle, as to be easily broken off, on coming in contact with those of the opposite jaw; and in the rare cases in which they do not thus give way, the natural teeth to which they are opposed, are generally seriously injured by the friction of the silicious body, which never, under any circumstances, feels congenial to them.

"When these mineral or china teeth were first introduced into this country from France, (for it is to our neighbors on the opposite side of the Channel that we owe these, as well as many other similar ephemeral productions,) the greatest mystery was affected on the subject of their composition, although any of our potters or porcelain makers could easily have disclosed it, as it is in every respect analogous to the ware which they fabricate. The most extravagant expectations were then formed from them; although few or rather none of the advantages which they are supposed to possess, have been realized, and they are now considered to be a complete failure. They have never been much used by any of the leading dentists of the day, and, I believe, are now wholly discountenanced by the respectable part of the profession, although they still reign paramount with the disreputable."

From a work entitled—*Guide to Second Teeth, or a Popular Treatise on the Teeth, etc., by S. Spooner, M. D., Dentist, published in New York, 1836, pp. 207,* we copy as follows:—

"The great objection made to mineral teeth, heretofore, has been, that they did not sufficiently imitate nature. The French porcelain teeth which are brought to this country in great quantities; also those manufactured here by most of persons, do not possess the characteristic appearances of the natural teeth, and are therefore detected at a glance.

"Mineral teeth are made in America in much greater perfection than in any other part of the world, if we can judge from the numerous specimens that have fallen under our observation."

We have not been able to obtain any statistics or satisfactory information as to their manufacture in England.

We are now disposed to leave the "tooth of time," and, coming down to the teeth of *our* day, give some items connected with their manufacture, in the belief that such would not be uninteresting to the profession.

Twenty years ago, perhaps not more than two hundred and fifty thousand teeth were manufactured annually in the United States, and probably less in Europe. Since then the demand has been continually increasing, owing in a great measure, to the rapid improvements made from year to year, and the more perfect applicability to the purposes designed, combining beauty and utility to such a degree as to leave almost nothing more to be desired. At the present time there are not less than *two millions* of mineral teeth made annually in this country, a part of which find their way back to the country of their invention.

It is a matter, then, of some pride, that we have so completely outstripped the older countries in the perfection and manufacture of this delicate and important article.

There is, probably, a capital approaching three hundred thousand dollars invested in this business alone, giving employment to a large number of persons, many of whom are females. J. R. M'C.

N. B.—Since the foregoing was written we had the pleasure of examining specimens made by the following gentlemen:—

Dr. J. F. Flagg, of Boston, made about the years 1831-2. These are of the clay body, but quite passable for form.

Dr. J. F. B. Flagg, of like body and form.

Also some of the early manufacture of the late Dr. L. Roper, of Philadelphia, of like material; and some by the late Dr. Blakeley, (a colored dentist of Havana, who received his education in this country,) made in 1836, of similar character to the above.

"*The American Journal of Dental Science*," for April, has been received, filled, as usual, with valuable matter. We commend it to the notice of the profession, generally. In looking over its pages, we find its editors have not been *altogether* unmindful of our less wieldy, unpretending quarterly, from their having appropriated two articles from our January number—one on the Regulation of Teeth, by T. W. Evans, M. D., D. D. S., and an editorial on Risodontropy—both of which they have neglected to credit to the News Letter. However, these articles make the Journal none the less readable. J. R. M'C.

For the Dental News Letter.

WHAT WAS IT?

MESSRS. EDITORS:—Recently I had a patient whom I was treating for diseased gums. The lady called my attention particularly, when she first visited my office, to the condition of the gum about the first right superior molar. The mucous membrane had been destroyed over a surface the size of a three cent piece, and the gum presented a highly inflamed and somewhat ulcerated appearance. I treated her gums and prescribed for her as I thought the case demanded.

After a few days she returned with her gums much improved, except the sore spot above noticed, to which she again called my attention as the only point then troubling her. Near the centre of this spot I noticed a small, bright, shining grain, such as appears in granular inflammation. Not being wholly satisfied with its appearance, I ventured to touch it with my cheek-holder, and found it to be moveable, and of a bony structure. After separating the gum a little from it, I took hold with a small pair of pointed forceps and removed it. It was about half the size of a wheat kernel, and round and smooth as a shot—taken from the buccal surface of the gum between the second bicuspid and the first molar. It was unlike the structure of the jaw bone, very dense, and altogether like the firmest dentine. It was not the last remains of a root, for no teeth had been extracted from that side of the jaw. Where was it formed? How came it there? What was it?

Yours, L. C. INGERSOLL, Dentist,
Ohio City, Ohio.

We have frequently taken the same kind of granules of enamel from the gums, and a short time since had one similar to the one described above presented to us by a member of the profession. These granules are, doubtless, similar formations to those, that when a little larger, are regarded as supernumerary teeth, as they are generally found, too, on the buccal surfaces of the gums opposite the spaces between the molar teeth. We have also seen two or three such round granules shed from the gum instead of a front incisor tooth. J. D. W.

Third Annual Announcement of the Philadelphia College of Dental Surgery—Session 1854-5.—This announcement has been received and indicates a prosperous condition of the School: indeed, its success, so far, has been without parallel. The Faculty, than whom a more able body of men are not to be found, have reason to be proud of the prosperity of their institution. J. R. M'C.

Revolutions in Mechanical Dentistry.—We have received an article informing us that an improvement has been made in making sets of teeth, to consist entirely of porcelain, dispensing with the use of gold, and that they are so superior, that neither the dentist or the patient that sees them once, will ever be guilty of going back to the old way again. What will be the end of this constant and rapid improvement to which Mechanical Dentistry is *exposed*? To render this improvement more valuable to the profession, it has already, so says the writer, been patented in this country, England and France. The ink is not yet dry that recorded an improvement in making blocks with moulds in such a rapid manner as to accomplish as much in “five minutes as is done in as many hours” in the ordinary way; we think this *remarkable*. A premium has also just been awarded by the Pennsylvania Dental Society for an improvement in moulds for the same thing. *Continuous gums* will suffer amidst all this, and the snail-paced plodder with his pen-knife, finger-drill, &c., will soon be among the things that were. *Enamel plates*—we hear no more of them. Have all the world that experienced that “*nasty metallic taste*,” when *bare gold* was employed, been served? There has been a great deal of time spent by experimenters to get rid of that *metallic taste of gold*. How are loaded sets of teeth progressing, where the gum was made of *tin* and galvanized with gold to get rid of that *metallic taste*? J. D. W.

Dentists' Elevating Spittoon.—This is a very neat article, made of iron, and bronzed, and so arranged as to be lengthened or shortened at the pleasure of the operator. It is well worthy the attention of the profession. See advertisement on cover.

Dr. E. Parmly.—This veteran in dentistry is now absent from his home on a visit to Europe, where he designs spending a few months. We wish him a pleasant visit and a safe return.

See cover for advertisements of Dentists' Elevating Spittoon; new Agents; Sponge Gold; Thompson's compound self-adjusting Blow-pipe; Louisville Dental Emporium; superior Tooth-powder; a Card.

An Elderly Tooth-Key.—There is on exhibition, in Boston, a Tooth-Key said to have been used by Dr. Snowden, on board the “May-Flower,” in 1620.—*Bost. Med. & Surg. Journal*.

THE
DENTAL NEWS LETTER:

A QUARTERLY PUBLICATION,

DEVOTED TO THE

INTERESTS OF THE DENTAL PROFESSION.

EDITED BY

J. D. WHITE, D. D. S., M. D. & J. R. M'CURDY, D. D. S.

VOLUME VIII.

JONES, WHITE & M'CURDY,
PUBLISHERS AND PROPRIETORS,

No. 116 ARCH STREET, PHILADELPHIA; No. 263 BROADWAY, NEW YORK;
No. 34 TREMONT ROW, BOSTON.

I N D E X

TO THE

EIGHTH VOLUME OF THE DENTAL NEWS LETTER.

Sponge Gold, by Prof. ARTHUR, - - - - -	1
The Remote Causes of Predisposition to Dental Caries, by LOUIS JACK, - - -	5
An Answer to the Review of Audi Alterum Partem, by A. S. Talbert, by W. A. PEASE, - - - - -	12
A few Remarks on the Hemorrhagic Diathesis, by ROBEY AUGUSTINE, - - -	18
Chloride of Zinc, by Prof. J. D. WHITE, - - - - -	22
Improved Sets of Artificial Teeth, (with Remarks by Editor,) by M. LOOMIS, -	24
Alloying Gold, by S. DUNCAN, M. D., M. M. S. S. - - - - -	27
Dentistry in California, by A. G. FRENAYE, - - - - -	28
Supernumerary Teeth, by S. V. HOWARD, - - - - -	30
Materials for Plugging Teeth, &c., by Prof. J. D. WHITE, - - - - -	31
Meeting of the Am. Soc. Dental Surgeons, - - - - -	33
Melting and Refining Gold and Silver, by Prof. T. L. BUCKINGHAM, - - -	36
A Riddle, by a Lady, (Poetry,) - - - - -	42
Editorial—Sponge Gold, - - - - -	43
Resignation, - - - - -	44
Professional Boasting, - - - - -	45
Obituary, Dr. L. Parmly—The Dentist—Dr. B. Cohen, - - - - -	46
Baltimore Journal Dental Science—Items from Correspondents, - - -	47
Physicians List—Death of Dr. B. J. Laughlin, - - - - -	48
The Language of Distress, - - - - -	48
Bernard on the Physiology of Absorption and of Respiration, - - - - -	50
Cataract, - - - - -	61
The Process of Repair in Teeth, - - - - -	63
Dentistry is now a Science, - - - - -	64
Sponge Gold, by J. W. T. RICE, with Remarks by Editor, - - - - -	65
Covering for an Instrument Case, by NICK HACKWORTH, - - - - -	71
Improved Sets of Artificial Teeth, by M. LOOMIS, - - - - -	71
Soldering Whole Sets of Teeth, by CHARLES COREY, L. A. C. - - - - -	73
Dental Neuralgia, by J. D. W. - - - - -	74
Melting and Refining Gold and Silver, by W. P. HAYWOOD, - - - - -	75
Letter from Salmon Skinner, - - - - -	76
World's Fair Exhibition—Letter from Dr. E. PARMLY, - - - - -	78
Case of Dr. B. and the Psychological Effects of Ether, from the Medical Examiner of December, 1844, - - - - -	83
The Psychological Effects of Ether Inhalation, by MORETON STILLE, M. D. -	106
Dentistry in France, - - - - -	114
Editorial—A very Interesting Case—The Value of Atmospheric Pressure Plates, Popular Errors, - - - - -	115
Human Teeth—A Curious Case, - - - - -	116
A Dictionary of Medical Terminology, Dental Surgery and the Col- lateral Sciences, etc., by CHAPIN A. HARRIS, - - - - -	117
Obituary, - - - - -	118
Facts for the People—New Portable Lathe—Mr. Borland—The Prac- tical Dentist—Dr. Ambrose Lawrence, - - - - -	119
Bernard on the Physiology of Absorption and of Respiration, - - - - -	120
Vocal Gymnastics, - - - - -	127
Case of Diseased Alveola, - - - - -	128
Cure for the Toothache, (a charm,) - - - - -	128
A New Method of using Gold-foil, by Prof. ARTHUR, - - - - -	129
Awards at the World's Fair, by Dr. C. C. ALLEN, - - - - -	133
On Patents and their Influences, by ORIS, - - - - -	136
The Springing of Plates in Soldering, by W. CALVERT, D. D. S. - - -	138
Of Hollow and Decayed Teeth,—Extract, - - - - -	142
Alarming Case of Hemorrhage from the Extraction of a Tooth, by J. D. KIL- BOURNE, D. D. S. - - - - -	143
Protracted Dentition, by G. F. J. COLBURN, - - - - -	144
Penna. Association Dental Surgeons, - - - - -	145

Ether and Chloroform, - - - - -	151
Sponge Gold, by J. W. T. RICE, - - - - -	153
The Ether Question, by JAS. E. GARRETSON, - - - - -	159
Editorial—Sponge Gold, - - - - -	164
Washington Monument, - - - - -	171
Dentistry on its own Basis, - - - - -	172
A new method of Annealing Teeth after Soldering and Springing of Plates, - - - - -	175
The Dental Monitor, - - - - -	177
Trial and Conviction of Dr. S. T. Beale, etc. - - - - -	177
Commencement of the Phila. College Dental Surgery—Springing of Plates, - - - - -	181
Complete Dental Register—Obituary—Death from Chloric Ether— Ear Syringe—Engagement Book—Vermont Dental Society, - - - - -	182
The Latest Intelligence from the Crimea, - - - - -	183
Fistulous Openings cured by the Extraction of Decayed Teeth, by JNO J. WATT, - - - - -	183
Is there a Degeneration in the Teeth? If so, to what is it attributable? by W. A. PEASE, - - - - -	185
Valedictory Address, by Prof. R. ARTHUR, - - - - -	193
Is there a Degeneration in the Teeth? etc., by W. A. PEASE, - - - - -	207
Absorption of Dentine, by Prof. WHITE, - - - - -	211
Treatment of the Nerve of a Tooth, etc., by A. B. WILLIAMS, M. D., D. D. S. - - - - -	212
Dental Patents, by T. D. THOMPSON, - - - - -	215
Treatment of Alveolar Abscess, by Prof. WHITE, - - - - -	216
The new method of using Gold-foil, by JOHN W. SPEAR, D. D. S. - - - - -	218
Poisoned by Chloride of Zinc, - - - - -	218
The Ether Question, by JAS. E. GARRETSON, - - - - -	219
Management of Light in the Performance of Dental Operations, by J. H. MCQUILLEN, - - - - -	225
The Wrong Tooth, - - - - -	229
Proceedings of the Mississippi Valley Association, and the American Society of Dental Surgeons, - - - - -	230
Dr. Townsend's Address before the American Society of Dental Surgeons, - - - - -	236
Plugging Frail Teeth, by Prof. WHITE, - - - - -	244
Phlegmonious Inflammation of the Gums, - - - - -	244
Notes from my Case-Book, by Prof. WHITE, - - - - -	245
Letter from Dr. J. K. RIEKEY, - - - - -	246
Chas. Wilson Peale, - - - - -	246
Editorial—Dynamometer, - - - - -	247
American Dentists Abroad, - - - - -	251
To Correspondents—New Postage Law, - - - - -	252
The Dental Obturator—Dental Convention, - - - - -	253
An Essay to prove the Contagious Character of Cholera, etc. - - - - -	254
Obituary Notices—A Guide, etc. - - - - -	254
Seven Nights with a Methodist Pastor, etc. - - - - -	255
Enlargement—Dental Practice for sale, - - - - -	255
Dentistry, by E. G. TUCKER, M. D. - - - - -	255
Call for a Dental Convention, - - - - -	268

THE DENTAL NEWS LETTER.

VOL. VIII.

PHILADELPHIA, OCTOBER, 1854.

No. 1.

For the Dental News Letter.

SPONGE GOLD.

BY PROFESSOR R. ARTHUR.

Although the whole art of filling teeth does not consist of the manipulations required by the material used for the filling, this is an indispensable element in the operation. Now it is a fact, observed by every one who has any opportunities of observation in the Dental profession, that very few out of the large number engaged in its practice are able to work the ordinary gold foil, (no matter how good may be its quality,) in such a manner as to answer the intended purpose, except in the most simple cases. And even those who employ it with the best success, are well aware that a great amount of time and labor are often required to give it the necessary solidity and finish. The defects of gold foil are quite obvious, and it has always been a desideratum to obtain something uniting those qualities which have made gold foil the best material heretofore known for the purpose in question, with sufficient plasticity to be made readily to take the form of the cavity to be filled, and capable of being made, or of becoming, dense enough to exclude the fluids of the mouth and to resist the force of mastication.

No substance, hitherto brought to the notice of the profession, has in any degree fulfilled these requisites better than gold foil, except the amalgams. It is well remembered how eagerly the amalgam of silver was seized upon, and at once extensively used. As regards its properties for filling carious teeth, I have no hesitation in saying that it is far superior to gold foil in several very important particulars and can be used in a somewhat numerous class of cases where it is impossible to use gold foil. This assertion cannot, I think, be questioned, or if questioned, it can easily be shown to be true. But the pernicious effects observed in some cases to follow the use of amalgams, which an acquaintance with the properties of the material necessary for their preparation would lead us to expect, very properly induced by far a very large majority of the best operators to condemn and discourage its use.

The new and very remarkable preparation of gold, lately introduced to the notice of the profession, under the name of sponge gold, crystallized gold, prepared gold, &c., goes farther than anything which has yet been offered to supply some of the defects of gold foil for our purposes. It is unquestionably, in my estimation, an advance, and a great advance upon the ordinary foil as a material for filling teeth. I speak, of course, of the best specimens which have been produced. This gold cannot be called plastic in the strict sense of that term, for it cannot be moulded into a desired form. It simply possesses the property of firm cohesion, one part with another, when subjected to pressure; and this goes far to make up for its lack of plasticity. For the purpose in question, it is very nearly a complete substitute for it. It not only welds together in the mass when compressed, but if certain conditions are observed, one piece welds firmly to another which has undergone compression. In this manner a cavity of any size may be filled, and the filling, under ordinary pressure, becomes a solid mass of pure gold. It becomes so dense, indeed, that it is not more readily cut than an ingot of pure gold. So advantageous are the properties it possesses for the important purpose in question, that if a firm hold can be found for any considerable portion of it, a filling may be completed to answer fully all the purposes of a filling without reference to the form of any other part of the cavity. It is, of course, unnecessary that any thing should be said to point out to practicing Dentists the immense advantages which this property of the material affords in cases which do not unfrequently occur.

It has been supposed that the sponge gold would become an entire substitute for gold foil for filling teeth, on the ground that with it a more perfect filling can be made, and in less time.

Now this, it seems to me, is not by any means the case. I have used the new preparation for several months past almost exclusively in my practice, and after attaining to considerable facility in its use, I am obliged to say that the average time required is greater than in the use of gold foil; unless the operator is content to perform indifferent operations. Where the cavity to be filled is large and deep, requiring several layers of foil to fill it compactly, the sponge gold may be used with great advantage and with great saving of time. It may be used, too, with advantage when the cavity is very small. But in all cavities of a medium size, quite as good a filling may be made with foil, with less labor and less consumption of time. Such, at least, has been my own experience.

It has been stated that slighter preparation of the cavity is required.

There are certainly cases where this is so, but in the average number of cases I think it is necessary to prepare the cavity better for using the sponge gold than the foil. It is necessary that some part of the cavity should be larger within than at the opening, (for I have not found that this gold could be made to adhere to the surface of the cavity,) and after a firm hold is obtained for a considerable body of the material, the portions added may be firmly welded to this. Operators have been seriously disappointed to find large fillings, with a beautiful surface, drop out in a mass, in a few days after a patient has left, from neglect properly to secure them. As this gold does not expand at all under pressure, it will not remain in a cavity in which gold foil will readily be retained.

The very fact, however, that it does not expand under pressure, renders it exceedingly valuable for filling cavities, the walls of which are too frail to allow a serviceable gold filling to be made. I have no question that every operator, who has had any experience with this gold, has found himself able to fill teeth which he could not have ventured to touch if he had depended on gold foil alone. I know it has been said repeatedly, that any teeth worth filling, can be filled with gold foil by a skilful manipulator; but this is an assertion entitled to no credit whatever. In my own hands a case occurred, a few months since, which I may mention here, as showing clearly the fallacy of such an assertion. One of my patients had a second superior bicuspid so much decayed and frail that, six months before I began to use the sponge gold, I had pronounced it beyond the reach of my ability to save. The whole of the inner side was broken away up to the gum, leaving the whole front standing; to this was attached a clasp, supporting a plate with one or two teeth. The part of the tooth standing was tolerably strong, but had not thickness enough to allow any place to be made to support the lower part of a filling. With gold foil, in my own hands, I have no hesitation in saying it was an impossible operation—with the sponge gold it was a comparatively easy one. The pulp was already dead, and after filling the pulp cavity it was no very difficult matter to build upon this portion a substantial mass of gold, which not only protected the exposed parts of the dentine from further decay, but furnished support and protection to the portion of enamel, for there was little else, still standing. This operation was performed six months ago; when I last saw it no change had occurred.

There has been a great variety of opinions expressed, both favorable and adverse, in relation to this preparation of gold. Some of these

differences are attributable to the very great difference in the quality of the gold. I am quite sure that if I had at first fallen upon a specimen so bad as much which has come into my hands, and regarded it as a good sample, I should have thrown it aside at once.

There has not only been a great difference in the quality of this gold prepared by different manufacturers, but also in the quality of that produced by the same individuals. This is a circumstance which has tended very much to interfere with its more general introduction. There is, however, a certain character about that produced by Watts & Co., of Utica, N. Y., which gives it great advantages over any I have used. In some of the best specimens of the gold of these manufacturers, I have found it to possess, in a remarkable degree, the required adhesiveness, without that friability which is so exceedingly objectionable. Of late, too, these gentlemen have succeeded in producing an article of very uniform quality. I prefer, for general use, their number one gold. This is the most spongy kind. The manufacturer graduated numbers growing closer in texture up to No. 4.*

I may say in these general remarks upon the subject, that even the best qualities of this form of gold deteriorate after a short time. I have found that some of the gold which worked exceedingly well, when it first came to hand, soon lost its most desirable quality of adhesiveness. I have not yet found any means of restoring this property perfectly. It is advised to use heat, cautiously applied, with some intervening substance between the gold and the flame; but although it certainly improves the quality of the material, does not restore it to its original condition.

There are a great many interesting features about this matter, however, well deserving, I think, more careful attention. I am satisfied that if all the difficulties which attend the early use of this new preparation of gold were pointed out, it would save a great deal of trouble and would lead to the proper appreciation of a most valuable addition to the appliances of our profession. If time and engagements permit, it is my intention to write out for the "News Letter" a series of articles, having this object in view.

* In justice to the Messrs. White of Utica, I must state that, having been obliged to fall back upon their preparation of gold, in consequence of my inability to have an order filled by Watts & Co., I have found that which I am now using quite equal if not superior, in adhesive qualities, to any I have tried. It is somewhat objectionable on account of its friability; but this is a less serious fault than that of a lack of adhesiveness.

THE REMOTE CAUSES OF PREDISPOSITION TO DENTAL CARIES.

An Inaugural Essay, presented to the Faculty of the Philadelphia College of Dental Surgery, Session 1853-4.

BY LOUIS JACK.

The extreme frailty of the human teeth of the present age, especially in the rising generation, and the indications of an increased frailty in the coming generation, very naturally directs the inquiring and philosophical mind to the investigation of the causes of this increasing degeneracy. So frail and imperfect in structure, are the teeth of the children which now come under the care of the Dentist, that when he marks the difference which characterize them from the teeth of their forefathers, and from firmness of structure and perfect development, he is irresistably led to predict what will be the resulting degeneracy from the operation of the same causes in the course of future generations.

Man, in his aboriginal state, or when he is not influenced in his physical well being by the customs, I might almost say, the requirements of civilized and enlightened life—not as it might be illumed and directed by the bright unerring light of science, but as the perverted tastes, and fanciful customs of this fastidious and artificial age minister to our comfort—had a superior physical organization, and therefore, was better enabled to withstand the exciting causes of disease. He lived plainly upon the various articles of food which the bounteous fields and fatted flocks presented him; in other words, he received his nutriment from his food as it was furnished him by nature. The animal, governed entirely by instinct, seldom dies prematurely, but by violent means; but, in proportion as man's rules of life, dictated by his tastes, are influenced by injurious customs and unnatural or morbid desires, will he be physically degenerated and in the same ratio predisposed to disease.

What then must be the condition of his offspring, who inherit as great or greater suffering for his infraction than he himself endures. I venture to state that the larger proportion of the maladies of enlightened life, are referable, in a great measure, to these causes for their occurrence. The strong and vigorous constitution has within itself the defence against the inroads of disease. While the weakly may be suffering with all the pitiable maladies to which they are hereditarily, or idiopathically predisposed, he lives in that health which his physical vigor endows him with. How then do these influences lead to this cachexia?

I must depart from these preliminary remarks and apply myself to the special consideration of the subject with which I have set out—the remote causes of *Predisposition to Dental Caries*.

1st. *It may result from a general interruption of the functions of nutrition during the formation of the teeth.*—We have abundant illustration of this in the effects which mark the teeth of children, who in early life have been attacked with serious affections, especially with inflammations of the brain, and violent derangements of the alimentary canal. The same results may be produced if the mother be cachectic, or diseased during gestation or lactation.

2d. *From a deficiency of the earthy elements in the blood.*—The increase of bulk in the animal body, the development of organs, and the repair of waste, are dependent on the blood for the necessary supply of nutritive material, each organ and part selecting from the passing currents of blood its appropriate constituents required in order to fulfill its office in the economy, and that the integrity of the part and the health of the whole be preserved.

The blood should exhibit all the principles of which each and every tissue of the body is composed, in the required amount. The organic principles of the blood are separated from the food. “A living body has no power of forming elements, or of converting one elementary substance with another, and it therefore follows, that the elements of which the body of an animal is composed, must be the elements of the food.” Chemical research has shown that the principles of which each tissue is composed must exist in the food, and unless they do in sufficient quantity for the wants of the system, defective nutrition must result, and those tissues will be imperfect in their structure or development necessarily. Minute examination of the teeth presents this truth, that in proportion to the relative deficiency of their earthy constituents are they acted upon by the ordinary exciting causes of *caries*.* The deficiency of *phosphate of lime*, measures their predisposition to that disease.†

“Vegetable fibrin and animal fibrin, vegetable albumen and animal albumen, hardly differ even in form. If their principles be wanting in the food, the nutrition of the animal is arrested.” What can we expect

* I use caries here in its usually accepted meaning.

† Any tooth, however good, may in a certain sense be liable to caries, inasmuch as the constituents of which it is composed have an affinity for acids; but generally we may say that no tooth is predisposed to caries, unless its enamel is soft, or imperfect in the union of its fibres, thus exposing the dentine, or forming a receptacle for the fluids of the buccal cavity.

else than defective structure of the teeth and bones when the elements which give them their character, the capacity to answer their purposes in the economy, as well as that perfectness essential for their health, are not in the food in sufficient amount for the blood to receive the quantity required to perfect these structures.

The bones may for a time suffer, but afterwards, by a change of regimen or health, be repaired; but not so with the dentine, the organization of which is too low to admit of the supply of the wanting principles; at least, the increase of lime in the teeth after their formation proceeds so slowly, that the inroads of *caries* has destroyed the tooth before that could have any apparent influence to the contrary.

I now propose briefly to state those circumstances which will influence the *deficiency of lime* in the food or *diet*, and by this means better elucidate my subject.

1st. *This may primarily be influenced by the soil* which affords to food its inorganic elements. In the vegetable, directly by the soil, and in animal food through the means of the vegetable.

“It has been distinctly shown that the nature of a soil exercises an influence on the quantity of earthy ingredients of the plants which grow upon it.” If they be deficient in the soil, they will be deficient in the vegetable products, therefore deficient in the food, consequently lacking in the blood. The phosphates are furnished to the soil by the action of water charged with carbonic acid, and the acids which exude from the roots of plants, upon the rocky or crude formations of the subsoil, which dissolves or renders those crude elements soluble, that they can be taken up by the roots of the plants. This action is continual, and the supply in scientific agriculture is aided by the agriculturist replacing those principles which he takes away with his crop.

The *phosphates* may be furnished in sufficient quantity only in a soil with the *silicates* for the growth of the stalk, the husk, and the cuticle of the seed; these cannot grow well without their quantum; but vegetable *fibrin* may be deficient in the phosphates, yet vegetation not be interfered with. But the animal system, especially that of man, depends principally for the *phosphates* upon *vegetable fibrin*. The nutrition of the human system must be retarded if he subsists entirely upon the growth of such a soil.* The vegetable receives its earthy constituents and a portion of its nitrogenous principles from the soil, therefore, the vegetable holds the same relation to the animal system that the soil does to the vegetable—a thought will suffice that I am

* I have stated that the elements of the food furnish the elements of the blood.

correct in tracing effects for their causes, back to the very origin from which these elements have been derived ; the deficiency of which in the animal system, leads to a deterioration of its tissues. From thence the inorganic constituents of the blood are received, and back to the same source is returned as excrement, such as are not assimilated, and such as the excretory functions separate from the blood.

The soil of the Western States of this continent, and the great prairies of the Mississippi valley, have been found poorer in lime than the demands of their plants require. These soils having been formed by the aggregation of decomposing vegetable substances for ages, are abundantly rich in nitrogenous constituents, which have been furnished by the atmosphere to the plants, thus forming a deep and rich soil, but lacking a due proportion of lime, as no means have been afforded to supply it with this element. The air does not yield it and the plains are too flat for a conveyance from the highlands by the water. It is plain that that region must be deficient in this element, even without the corroboration of analysis or experience. What is the inference to be drawn from this ? That the produce grown upon those soils, must be deficient in the *phosphates*.

The important question now arises, whether there is not a connection between agriculture and the health of the people ?

The early and rapid decay of teeth in the Mississippi valley, incited the inquiries of Dr. Drake for its causes. May we not find in the soil and agriculture of that district some of the reasons for this ?

2d. *The preparation of the food.*—The early decay of the human teeth, and the rapidity of dental caries, has been attributed by a writer to the close bolting of flour in its manufacture. It is very probable that this may have considerable influence. I would not maintain that corn, (which term includes the *ceralia*,) should be prepared as coarsely as the *granivora* receive it ; but it is unquestionable that the greater amount of the earthy ingredients of corn, the great “staff of life,” are removed in its manufacture. The bran contains several inorganic principles, the prominent one being *phosphate of magnesia, lime and potash* being also present in an appreciable quantity. The great use of the bran, were it retained in the flour, would be to answer the purpose of a vehicle for the conveyance of *phosphoric acid* into the economy, a principle present in all the tissues, and it is probable that it “serves some important office in the chemico-vital operations.” It is an indispensable constituent of the brain and nerves. It has been asserted that the vivacity of the functions of the brain is in proportion to the quantity of phosphorus in its structure.

Professor Jackson, of the University of Pennsylvania, frequently recommends to his classes a phosphatic mixture, composed of phosphate of lime, phosphate of magnesia, phosphate of potash, and phosphate of soda, in diseases where he wishes to impart, or restore tonicity in softening of the bones, in changes of the blood, &c.

Besides the fine bolting of flour, the choicest brands of the market are manufactured from the white varieties of grain, which contains less gluten (vegetable fibrin) than the yellow varieties of wheat, therefore less productive of strength to the organization.

These constitutes some of the dietetic errors of life, and these errors inflict the appropriate punishment.

3d. *The quality of the food.*—The quality of the food for the nutrition of the bones and teeth depends upon the quantity of the *phosphates* contained in it. These vary very much in different articles of diet, and I find by analysis afforded me, there is considerable variation in the quantity of inorganic elements in different varieties, and no inconsiderable variation, in the same varieties of both animal and vegetable food, as the following table from Pereira's Food and Diet will show :

In 100 parts.			
Wheat,	.	.	0.36 to 0.90
Rye,	.	.	0.60 " 4.18
Barley,	.	.	0.10 " 0.60
Oats,	.	.	0.16 " 0.60
Rice,	.	.	0.40
Caseine,	.	.	6.00
Milk,	.	.	0.19.75

Of which the principal quantity is contained in the bone.

Now, as the system obtains its phosphates from the food, it is quite apparent that it would be impossible for the animal system to carry on with perfectness and strength, the process of nutrition depending for its nutriment upon a diet selected from those articles containing the smallest quantity of earthy elements ; at least, that system could not have the vigor of one which depends upon a diet rich in those principles. "The small quantity of phosphates which the seeds of beans, peas and lentils contain, must be the cause of their small value as articles of nourishment, since they surpass all other vegetable food in the quantity of nitrogen which enters into their composition ; but as the component parts of bones, (phosphate of lime and magnesia,) are absent, they satisfy the appetite without increasing the strength."

Bouchardet says—"Phosphate of lime plays a more important part in nutrition than has heretofore been believed. Independently of its necessity as a constituent of bone, this salt maintains that irritability

without which there is no assimilation, and consequently no nutrition. Its insufficiency, therefore, produces death, with all the symptoms of inanition; while its insufficiency in a less degree, produces a series of lymphatic diseases."

"The food consumed in cities is deficient in this respect. Nurses' milk has, consequently, the same defect. The infant, as well as the fœtus, suffers from the deprivation of this element, so indispensable to its developement and life."

It has been said that "corn, milk, and the flesh and blood of animals, furnish more phosphates than the wants of the system require. But are our tables provided with articles rich as these, and are not even these named articles varying in solid constituents, owing to circumstances I have previously considered?"

My remarks and arguments I wish to be applied to the mother who is appropriating from her blood elements of tissues for the construction of a new being, as long as she is physically related to it, that is, during gestation and lactation. It is important that her blood should be furnished with a greater quantity of the phosphates of lime and other earthy elements than her own system requires, especially for the formation of the teeth, for the reasons I have before stated, that they are not recuperative. This is a very important and interesting consideration, that that amount of lime which will well suffice the wants of the mother's system, are not adequate to the needs of the fœtus, and that quantity which well suffices the adult, is deficient to supply the increase in size and solidity of the growing structures.

If there exists an excess of these earths in the food, it is either rejected by the lacteals, or is eliminated by the excretory functions, and cannot do any injury providing there is a due amount of *phosphoric acid* in combination to retain them in a soluble state, or no principle in the blood or secretions to precipitate them. Nature has provided means for the organism to convey away the excess of any element; but it is beyond her power to produce it, or convert another elementary substance into a substitute.

I believe the *selection and preparation* of the food has more influence over the human organism and physical health than is generally supposed. Science appears to expend more efforts in the investigation of the palliation and cure of disease, than in seeking and directing the means for its prevention. Would it not be the highest attainment to be enabled to dictate to the pregnant and nursing mother those hygienic rules, which will give to her infant that intra-uterine and early development, which will be likely to ensure it health in after life, and

not bring it forth predisposed to disease and doomed to premature death.

The milk.—As the milk forms the principal and appropriate food of the child in early life and during the formation of the teeth, I cannot pass it by without a few considerations. The preceding principles and deductions are readily applied to the secretion of this fluid. “The quantity and character of milk differs in accordance with the quantity and quality of the food; it varies in quantity and quality according to the amounts and kinds of solid or liquid food taken.” The milk is more abundant and less acid if the female lives upon animal food, and possesses opposite qualities when vegetable diet is used.

The temperament has long been believed to exert some influence on milk, “that the milk of fair women is inferior in its properties to that of brunettes.” The analysis of L’Heretier, gave a preponderance in the milk of the brunette of 30 parts in 1000 of solid constituents, and 6 to 7 of caseine over that of the blonde. The inference to be drawn from this is plain and intelligible.

Of difference in solidity of structure between the teeth of the different classes.—Thus, as we follow in the order of development, we find the teeth generally to be less dense than those preceding them in the order. The second molar is much softer in texture than the first, and the third than the second. The only reasonable principle to account for this, seems to be that as the child becomes older, the other structures, the bones, the cartilages, &c., more rapidly appropriate their respective elements from the blood to fit them for the increasing demands upon them; on the *conservative* principle of the economy they must be supplied, and the teeth being only passive organs, suffer. The third molar being so frequent an instance of this, its formation taking place as the child is approaching puberty, led me to the conclusion here stated. It is obvious, if the blood is not abundantly supplied and charged with the constituents of bone at this age, that the rapid formation of the bones must decrease the quantity of them in the blood and the nutrition of passive parts will be imperfect.

Of individual differences in the structure of the teeth.—This is undoubtedly referable to the differences in health, habits, food, &c., of different families, and may be assumed as evidence of the verity of the theories of predisposition to dental caries herein considered.

In preparing the foregoing essay, I have been directed in my conclusions by the principles of physiology, and my deductions have been drawn from analyses afforded me by Liebig’s and Pereira’s works.

For the Dental News Letter.

AN ANSWER TO THE REVIEW OF AUDI ALTEREM PARTEM,
BY A. S. TALBERT.

BY WM. A. PEASE.

"Now, what I want is facts. * * * * * Facts alone are wanted in life. Plant nothing else, and root out every thing else. Stick to facts, sir."—*Hard Times*.

An article appeared in the last number of the Dental News Letter, purporting to be a review of an article from my pen, in the January number. It is a masterly production; and inaugurates a new era in English composition, as much as did the advent of Homer in Greek. Whether we consider the clearness and ability with which it is written—the admirable arrangement of the subject—the just sequence of one thought to another—the *delicacy of the allusions to self*, and the generous treatment of the reviewed; it is worthy of our serious attention and profound consideration. The writer was evidently laboring under a desire to write something; he had a movement of the spirit, and impressed with the importance of his conceptions, he has given utterance to them, in a form that will command the enduring admiration of the profession, and literary men. We have consulted our best reviewers, in vain, for a parallel to the candor with which he has laid open the secret impulses of his heart, and displayed to the public gaze the motives that impelled him to write. There was no self-interest there—no private pique—no disappointed ambition, and no allusion to the cause that induced him to relinquish the prize of victory, after he had his enemy on the ground, and had won a diploma by the strength of his character* as an operator, and had the whole field to himself, to seek, like Alexander, new fields to conquer. From this, may we not infer, the dentists of Lexington have yielded to the supremacy of his skill, since he has time to devote to literature; and seems as much disposed to conquer with the pen, as hitherto, in the smithy, with the crucible and muffle.

Your ambition, O! Aaron S. Talbert, is high and vaulting—it will compass great things; and I hope it is not too much to expect, since you have assumed the pen, you will not relinquish it, but continue to adorn the dental periodicals by articles, which your early education, severe mental discipline, intimate acquaintance with the classics, general and medical literature, mature judgement and cultivated taste,

* See Talbert's review. "For the diploma was not awarded to the man who exhibited the *finest* specimens, but to the one whose character, as an operator, greatly excelled that of his rivals; a fact, &c." A. S. Talbert got the diploma.

so eminently qualify you to write. Till now, I had supposed a review had some reference to the style, facts, arrangement and adaptation of the article reviewed to the subject; and was unlike a Spanish mantilla, to conceal the stiletto, urged to the unsuspecting, unoffending heart. In this I was mistaken; your review must be a model, a true exponent of those high and chivalrous conceptions of the duties and dignity of manhood, taught in the land of chivalry to which you have removed. It is gratifying to observe the aptitude of your scholarship, which would be really surprising, were not your antecedents, and the variety and brilliance of your previous acquisitions recollected. At first, I must confess, I viewed your review as wanton, unprovoked, malicious—the offspring of much study, and more ill-will; but I am convinced of my error, and of the injustice I did you, and now believe it was dictated by pure benevolence and *good will*. Now, as this is no review, and I am no critic, I shall pass over such beautiful and appropriate phrases as “entangling dilemmas,” as it is difficult to particularize, where all are equally beautiful and worthy of admiration. I will now pass to the fair at Dayton, where you charge me with exhibiting Dr. Hunter’s work. Here I will remark, I am sensible of your consideration, the delicacy of your allusions, and the evident desire you manifested not to wound my feelings. Yours is not a rough nature—the milk of human kindness enters largely into your composition; you would spurn all rough and disparaging epithets, as unworthy a gentleman, and unworthy you, and cling to the truth as the jewel of your life. Indeed, I am deeply sensible of the obligations I am under to you, for mentioning I was confined to a sick bed. Justice with you is an exotic, and though diligently cultivated, has never taken healthy root. Yet, the efforts you made to be just, are worthy of all commendation, and betray the exceeding goodness of your heart; and but for a treacherous memory, which prevented you from mentioning some other important particulars, you never had been troubled with perusing this. Deeply sensible as I am, of the great honor you have conferred upon me, by making my humble production the subject in which to flesh your maiden sword, and charmed by the style and humor of your review, I am grieved to part from a man distinguished by so brilliant parts, such a cultivated intellect, and such an honorable life; and reluctantly deny myself the pleasure of addressing you further in person, to talk awhile to the public. Vale! vale! formosa, &c.

The whole of my alleged connection with the Fair at Dayton may be summed up in a few words. At the time, I had been confined to my bed for two months. Just before the awards were given, Dr. Conway

called on me, and suggested the propriety of my exhibiting; which I declined, stating I had nothing to exhibit. During the conversation, he was shown a piece, made under the superintendence of Dr. Hunter, while learning to mount teeth by his process; it was then in much the same condition as when it came from the muffle. Talbert was exhibiting teeth mounted by Allen's process, and Conway, sets mounted in the ordinary way. My brother, who is not a dentist, but who has been in my office considerably, was present during this conversation. After visiting the Fair, he became so impressed with the superiority of my piece, that, unknown to me, he polished the set, as much as the time would admit, thinking he could take it to the Fair, and surprise me by a diploma. As he could not enter it, Dr. Conway kindly invited him to put it in his case. My brother, and several gentlemen, whose judgment I respect, declare it was better than Talbert's, (as he admits in his review,) and had it been regularly entered and presented by a dentist, must have taken the premium, notwithstanding the formidable effort made by Talbert.

Now, is not this piece of personal rivalry interesting to the profession, and worthy of being chronicled? And was it not very laudible in the reviewer to so distort and misrepresent so unimportant an act, in which I was not in the least implicated, or an actor, as to leave me no alternative but to suffer in public estimation, or vindicate myself by an answer? Now, as I cannot consent to follow him in his deliberate attacks on me as a plate-worker, and as my patients are very well satisfied with my skill, and as I really have no aspirations to be considered a good mechanic, and care but little about it any way, as I think it the lowest kind of dental skill—I shall leave this incipient lexicographer with his "*insensitive hoof*," hoping the shade of Webster will not be troubled, and burst its cerements at such gibberish, and proceed to the advertisements he has copyed, (I hope correctly); and will candidly declare, *ego sum homo*, I am the man who wrote them, or something similar, for which I shall offer little in extenuation, but cry *peccavi, peccavi*. I might, however, remark, that those advertisements were written before I was established in Dayton, and were limited to three months. They were in much the same style as advertisements by others, and were intended to ascertain whether I could obtain a practice there, before I lost mine in the East—as I am a lame man, and the little snow and ice in winter made Dayton a more desirable place of residence. I might further add, that circumstances alter cases; what would be considered arrant quackery in Philadelphia, might be over-modest in Hamilton county, New York; and what would

be denominated a "stud horse bill" by a refined and elegant writer in Lexington, Kentucky, might be very sensible in Dayton, Ohio—all depends on the customs of the place. Besides, fashion has something to do with these things—what is in vogue to-day, may be vulgar to-morrow. To-day, a fine and fashionable lady buttons her dress close up in the throat, and cuts the skirts off close below the knee; to-morrow she displays all her pectoral charms, and sweeps the streets with her flounces. "We must do in Rome as Romans do." When the author of Hashush was the guest of a minor Arab King, he inquired how large were his Majesty's army and navy, and was promptly informed, that the army consisted of 600,000 soldiers, and the navy of 100,000 ships of war; and when, in turn, he was asked the size of the President of the United States' army and navy, knowing if he told the actual size, he would loose caste, besides destroying the respect and usefulness of his country in that country, he very properly replied, that his President was attended by a body-guard of 1,000,000 men, dressed in the most magnificent uniform, and glittering with gold, and his fleet consisted of 600,000 ships of war. To which a courtier, who had seen some U. S. ships, seriously replied, that he was altogether too modest, as he knew the President of America had a much larger army and navy.

Now, how could I appear in the august presence of Aaron S. Talbert, who heads his posters with "Mechanical Dentistry Perfected," and other equally sonorous titles, while the body of them is composed in lofty periods, from which all the little words are carefully expurgated, and the sentences flow so smoothly, and sound so melodiously. I have seldom dared to read them, and have never fully comprehended them, as, after diligent search through all the languages of Greece, Rome, Germany, France and England, I have never been able to find all the words! Or, who would patronize a man, in the presence of so much greatness, if he was too modest to display his good qualities in something like an equally noble light! Hence, by the force of circumstances, I was obliged to assume an oriental style in my advertisements—vide A. S. T.'s review. At this time he was but little known, and had never dreamed of writing reviews; and I had some difficulty in learning his antecedents, but ascertained he was a callow fledgeling from the Cincinnati Dental College, then first assaying to flap his plumeless wings outside the maternal nest. Were I disposed to rob old trunks of their linings, I might present your readers with counter specimens of his advertisements; but, not to entirely deprive them of so great a treat, I will remark, though they were excellent, yet in his

master-piece, the great review, he has outdone himself, and made colossal strides towards writing the English language correctly, (if it has not been corrected by the proof-reader,) AND IT IS REALLY A VERY FAIR SPECIMEN OF A SIX MONTH'S GESTATION.

I will close this article by the remark, that the two articles are before the profession—their vis animal will be fairly judged. And I think I can anticipate the award of all those whose education, instinct, and associations are honorable and manly, who, though they may dissent from me in some particulars, will nevertheless accord to me the merit of having “set down nought in malice,” or pandered to low or unprofessional instincts, by writing aught for a professional and scientific quarterly, unbecoming it, a gentleman, or the profession; or by attempting to wound the feelings, or stab the reputation of any one by double-entendres and inuendoes couched in the vocabulary of the gutter or the stable. And while I have the approbation of such, I shall ever consider it a distinctive mark of merit to be reviewed by just such persons, and in just such a style as I have been.

I had designed, and have already intimated to Mr. Jones, of New York, that I would correct a misunderstanding under which Mr. McCurdy labored, in his remarks on my article in the January number of the News Letter. Circumstances have hitherto prevented me from accomplishing it, and it may not be inappropriate to make the correction here, as a P. S. to this article. Had Mr. McCurdy re-perused my article, he would have seen my objections to dental exhibitions at Fairs had no reference to the manufacturers of teeth, but was solely directed to exhibitions by dentists; and he must have observed, from the manner in which I spoke of the exhibition of Messrs. Jones, White & McCurdy, that it not only met with my approbation, but gave me pleasure to witness it; as there was nothing showy or gaudy there, neither too little, or too much; but the plain display of men conscious of their merit and strength, who spurned all accessories to catch the eye of wonder, as unworthy their articles—unworthy them. In my estimation, the teeth should have been there, as they are an article in which American manufacturers succeed; and it is chiefly to Messrs. J., W. & McC. that they have been brought to their present state of perfection; and they are the largest manufacturers of that article in the world. Mr. McCurdy very justly remarks, it is a species of manufacture, and should be treated the same as any other kind of manufactures. Moreover, they are articles that can be placed in any Fair, as all purchasers are judges, and competent to make a good selection. In

this they differ from mounted specimens by dentists, as their patrons are not judges, and can not tell whether the sets in a show case are adapted to the mouth, or are evidences of skill ; and can only judge as to whether they please the eye. The influence dental displays exert on the community and the profession, I contend, is prejudicial. Every thing that has a tendency to lower the estimation of the teeth in the community is prejudicial, and works an injury in proportion as their value is depreciated, the same as any fashion or mode of life, that is opposed to the laws of life. People are too prone to neglect in health, the means best calculated to preserve their health or teeth, thinking they will be exempt from the penalties attached to the violation of the laws governing their physical existence ; and that it will be time to act, when disease is upon them. Let it be given out, a certain viand or mode of life, exceedingly pleasant to the taste, or individual, will certainly produce great physical pain, or death, and few will be hardy enough to eat or continue it ; but, let this be coupled with a knowledge, there is an antidote, bitter and nauseous, and attended by considerable inconvenience and pain, which will give them a respite from death, and allow the further enjoyment of their favorite viand, and few will think of its pernicious qualities. It is so with the teeth, all operations on them are unpleasant, and often accompanied by personal inconvenience or pain ; and even, in large cities, the operations are sometimes performed by incompetent persons, and after the patients have nerved themselves up for the operation, it is of little use to them, they lose their teeth ; and naturally come to the conclusion all dentists are alike—there is no balm in Gilead, and it is worse than useless to suffer the pain of an operation, which but slightly defers an inevitable result. But let a manufacturer of artificial sets appear, and proclaim that he can make a substitute, equally as useful and beautiful as the natural teeth, and accompanied by little inconvenience to the person, and let those substitutes be displayed, temptingly at Fairs, and there receive premiums, awarded by supposed scientific committees, and let them grace the doorways in the principal thoroughfares, in splendid cases, with their medals and diplomas attached to them, and let the manufacturer of these substitutes, by the large emolument he receives for making them, as compared to the little expenditure of time necessary to acquire the skill in this department, be tempted to place the artificial teeth in the foreground, and push the chances of saving the natural teeth into the shade, and let the dentist be taught in books, and orally, that mechanical dentistry is legitimate, the height of dental attainment, till he comes to believe he is doing God and humanity

service, in extracting and inserting new teeth, while it is the sure road to fortune; and then tell me how many will acquire the skill necessary to preserve the teeth; and if acquired, how many will exercise it in their offices, and enforce their views by their social position, their voice and pen,—and how few will profit by their advice, when they see dentists of opposite practice thriving around them, petted by public functionaries, and receiving medals at Fairs. Every one knows the inefficiency of much of the plugging that is done; their friends and neighbors have tried it, and it has failed, and they now wear artificial teeth. With this cumulative evidence before them, how can they do otherwise than look with complacency on artificial teeth, and how can they place much confidence in plugs; although, with some undefined hopes of saving their teeth, they may submit to an operation, and actually fall into hands that will bestow that care on their teeth the importance of their preservation demands. In short, artificial teeth have a tendency to familiarize people with the loss of the natural ones, and to teach them that loss is repairable; they consequently diminish the value attached to the natural teeth, and at the same time increase the aversion to an operation for their preservation. While Mr. McCurdy was right in saying, “there is too much pain to be undergone” in having healthy teeth extracted (for it amounts to that,) for the purpose of having new ones inserted, he should recollect, tolerably sound teeth are sometimes troublesome, and many persons assert the pain of plugging a tooth *is as great to them as the extraction of it, while it is much more protracted*. Under these circumstances, it requires great confidence in plugs, to induce them to undergo an operation, and others are daily heard to declare, they will not submit to so painful an operation, but will wait till their teeth trouble them, and then have a new set.

For the Dental News Letter.

A FEW REMARKS ON THE HEMORRHAGIC DIATHESIS.

BY ROBEY AUGUSTINE.

There are few, if indeed any, of the idiosyncrasies so deserving the attention of the Dental Surgeon, so intimately connected with his speciality of the healing art, as the predisposition hemorrhagic. Deemed for ages to possess an existence only—and that rarely—in the temperament sanguine, deductions, the result of proper observation, have proven its existence in them all; the bilious as in the sanguine, the nervous as in the bilious, and so on. While the citation of case after case, where, consequent upon this diathesis, dental operations

have been attended by serious and even fatal results, call imperatively for a familiarity which shall allow the practitioner an understanding of the subject in all its pathological ramifications, as well as insure to him entire confidence in the formation of his diagnosis.

As is evident to all—in the treatment of disease of any and every nature—the step of paramount importance is the formation of a correct diagnosis; failing in this, all action is malpractice—is sailing over a sea without a chart.

What are the endorsements of a hemorrhagic diathesis? It is a strange thing, an unaccountably strange thing, that, in this age of reason and science, there can exist men so obtuse, so blind, so—name it what you will,—as to deny the absolute necessity of a medical education to the dental practitioner; for our own part, we cannot understand how he can successfully practice without it. The director of a living organism, and utterly ignorant of its physiology; unable to mark the line between normality and its antipodes. We cannot understand it.

It will be remarked, that to bleed profusely is not a reliable endorsement. Violent passions, agitations of the mind, a dissolved state of the blood, the too liberal use of medicines, such as cantharides, the volatile alkaline salts, food of an acrid nature, strong purges, vomits, or any stimulant of the bowels, all tend to the production of hemorrhage, more or less severe, according to circumstances.

Again, there are natural discharges, the efforts of nature to relieve herself—other false endorsements, the maltreatment of which must ever result seriously. It cannot help but be noticed how, in fluxes of this character, when it becomes necessary to check the violence of their discharge, all the judgment of the most skilful is called into requisition.

As coming under daily observation, we might notice numerous cases presenting themselves under such cognomen as scurvy, chronic inflammation, ptyalism. Nothing more or less than disease of the gums, superinduced by a maltreatment of these involuntary fluxes. Let us instance a plain case in illustration. If it is admitted—and we imagine there are none who doubt it—that violent agitation may determine the blood to some particular part, as the hemorrhoidal veins, the head, or any where else, then we have at once a case where the results are, or may be, the consequence of a treatment founded upon an incorrect diagnosis—a diagnosis as likely to be incorrect as the contrary, when not arrived at through the channels of the scientific reasoner. A patient of nervous temperament under violent agitation, induced by the circumstances of the moment, submits to the operation of the extraction

of a tooth, the blood determined to the head, the overcharged carotid relieves itself through the duct of its dental branch, vented by the extracted tooth. We allow the bleeding to proceed until the system recovers its equilibrium; a correct practice rewards us with its healthful results. Let us pursue a contrary course, and the result is not to be wondered at. The system, when in these states of excitement, is always to a greater or less extent fevered; fever is in the blood. You prevent egress to the blood, of course also to the fever, allowing it to expend itself within, to disturb the economy of the gums,—disease is entailed upon the poor victim. Ptyalism, scurvy, or chronic inflammation backs the burden, while he on whose shoulders it properly should rest, with a conscience entirely incommoded—thanks to the bliss of ignorance—racks his brain in search of his catholicon.

The cause of fluxes, we would repeat, should always be carefully considered, and being the result of causes as different as they are opposite, and demanding equal variety of treatment, the necessity of the demand is unmistakable.

In pursuance of the subject of causes we might add, as they at this moment suggest themselves to many others: peculiar conditions of the body, laxity of the vessels, habits, inflammatory disposition of the blood, obstructed perspiration, stricture upon any particular part of the body; while numberless others, some peculiar, some common, has and will present themselves to the attention of the observing practitioner.

But, to return to the abstract: What are the endorsements of this diathesis?

When it is remembered how utterly void is it in physiological presentments, in distinguishable peculiarities, the difficulty of making oneself understood is apparent. We have written the names of some of its many false endorsements, and suggested the certainty of the existence of others; here the describable signs fail us, and mind must complete what language has no words to express. For our own part, we do not believe, or, we should rather say, we do not know how a correct diagnosis may more directly be arrived at, than by inquiries of the patient, whether he or she is cognizant of the existence within them of this idiosyncrasy. Failing here, we should generally look to time for the proof of our conclusions, and not let the sight of blood frighten us to hasty action,—as if indeed every drop ejected was so much of life lost. Calmness of mind and clearness of judgment is, under most circumstances, advisable—in cases of this kind particularly so.

As a general rule, we think experience endorses the non-intervention principle; unless, be it understood, an injurious effect is perceptible on the person of the patient,—even then we prefer a cathartic to

an astringent, believing a more healthful result is obtained—and with much less risk; then, should this fail, we have lost nothing, still having as our remedies of reserve, the styptics, astringents, and so on.

January 4, 1853, an infant, the little patient of a respected M. D., died at Mullica Hill, N. J., from hemorrhage, attendant on incision of the gums for relief in dentition; being intimately acquainted with the physician, and having the greatest confidence in his skill, we marked the case, with presentiments, treatment, &c., in our every-day book, as a case of hemorrhagic diathesis.

June 4, 1853, a gentleman, whose business calls him much on the road, applied to us for the purpose of having a second inferior molar extracted. On lancing the gum, he swooned away in a fainting fit. The operation was succeeded by profuse bleeding, at which we were not at all surprised, and to which we paid no attention. Next morning was called to visit him; the bleeding, which had continued, had increased in copiousness; the patient much weakened, and very pale. Deducing from its continuation and increase that we had here encountered a case of the diathesis alluded to, we resorted to our pharmacopœa of remedies; but one after the other failing, and the patient growing weaker with every hour, we began unpleasantly to feel the necessity of more speedy action; we resorted to the last measure suggesting itself—a trial of which, in extreme cases, we suggest to the profession. Cobweb* was completely saturated in watered borax, rolled in powdered bayberry, and compressed as a plug into the bleeding cavity; the patient lay quiet the remainder of the day, and the next dispelled all cause of fear.

Cobweb, prepared as above, laid over bleeding surfaces, will be found almost instantly to arrest the hemorrhage, but in cases of this kind a difficulty attends its application. Should the cloth be improperly removed, the constricted parts will be re-opened, and the disease reproduced; but, if allowed to remain until loosened by the action of the saliva, (we now allude to its application particularly over the incision of infant gums,) it may be depended upon as reliable.

We might—if we did not deem it unnecessary—mention several other cases, occurring both in our own and in the practice of others, which we have set down to this diathesis; while, at the same time, we might indite a much greater number maltreated in mistake for it. And being convinced of this fact, we recommend tardy treatment, believing that with less haste we have the greater gain.

* That taken from the cellar we prefer.

For the Dental News Letter.

CHLORIDE OF ZINC.

BY PROF. J. D. WHITE.

It is remarkable that, from the length of time that this substance, as a powerful escharotic, has been known to the medical and dental professions, that so many are still ignorant of its useful properties. The chloride of zinc "is formed by adding oxide of zinc to pure muriatic acid by the aid of a gentle heat, until no more is dissolved. The solution is then evaporated to dryness, rubbed to powder, and kept in a closely stoppered vessel. It is very deliquescent in the air, forming the *Butter of Zinc*."

This escharotic is used in a variety of forms in general surgery, and was first suggested to us, about twelve years ago, by Professor Pancost, of the Jefferson College, as likely to be useful in destroying the nervous pulps of the teeth. We soon found, however, that it excited too much pain, to be useful for that purpose, and required too many applications to destroy the whole of the pulp, or sufficiently low down in the roots, as it does not seem to act with great energy on healthy tissues. But we soon discovered that it would obtund the sensibility of the dentine, while preparing the cavity for plugging, though not without in most cases exciting considerable pain. The pain, however, caused by this is bearable, whilst the cutting and cleaning is not. There is scarcely a day passes that we do not witness—especially in young patients—operations that have been done by operators of the highest character, that are entire failures, simply because the patients could not bear thorough cleansing and plugging. Those patients approach the second operation with the greatest possible fear and trembling, because of the first having been so intensely painful. In many instances, highly sensitive teeth are partially plugged with foil, or are *plastered up* with some *paste, cement or compound*, and permitted to take their chances. It is quite frequent that tender teeth are plugged with some *soft* substance, because they are too sensitive to bear gold, it is so *hard*. It is no difficult matter to persuade a suffering patient to this practice. We are at present operating for a gentleman from a distance, who anxiously inquired, before he submitted his mouth to us, whether we had any of "Hill's Stopping," as his teeth were too tender to be plugged with gold. One of the most eminent surgeons of our city applied to us, in June last, to have the nerves destroyed in two molar teeth, or have them extracted, to get rid of the great annoyance they were to him. An eminent dentist had attempted to plug them three years before, but found them too sensi-

tive to be operated on. The dentist advised him to let them be, as the nerves were exposed, and it would be useless to destroy them—advised them to be plugged with cotton, until he got tired of that, and then have them extracted. The cotton had been worn constantly during this time, (three years,) and to our astonishment, upon examination, the nerves were not yet exposed; but the dentine was extremely sensitive. The patient was unwilling to let us do more than merely touch them with a probe, on account of the pain that cleansing induced. We applied a solution of the chloride of zinc, by saturating a pledget of cotton with it, large enough to fill the cavities. It only produced a warm and pungent sensation. It was allowed to remain until this sensation passed off, when it was removed, and the cavities cleansed without pain. The cavities were illy suited to retain plugs, but we were permitted to drill and scrape them into proper shape, without any complaint from the patient. Still, our incredulous patient could hardly let us pack the gold, expecting that every thrust of our instrument would plunge into his very brain.

These teeth assumed so natural and comfortable a sensation in a few days, as to call forth the warmest congratulations from the patient, for the great service we had rendered him; and he exclaimed, “how can this be, that I have been treated so, when I applied to what I regarded as the highest authority, to have these important teeth saved.” We might here remark, that this surgeon could scarcely believe that dentine possessed, under any circumstances, such exquisite sensibility, having been a pupil of the *Hunterian School*.

About the same time, a young lady, aged about twenty years, applied to us to have the first right inferior bicuspid extracted, as the nerve was exposed, and it had been plugged four times within one year; and she had suffered so much, that she had come to the conclusion to have it extracted at once. But, as we never extract a tooth without an examination to ascertain whether it is proper, or out of the reach of preservation, we refused to extract it, without knowing for ourselves whether the nerve was exposed. We accordingly examined it, much against her will, and found that the nerve was not exposed. Of course we refused to extract it, and informed her that it could be plugged; but she very promptly told us that she had suffered so much by the former operations of plugging, and at each operation had been made sick for a week at a time, that she could not consent to submit to the operation again—especially as she was going away, and could not be laid up. We remarked, that we were unwilling to compromise the genius of our calling so much as to extract a tooth so conspicuous

as it was ; or, in other words, to acknowledge the weakness of our profession, and therefore we would not extract it. She remarked that she was well aware that the *real* nerve was not exposed, but it was nevertheless just as tender as if it were. We remarked, that if we failed to remove the tenderness in five minutes, then we would consent to extract it. We applied a solution of the chloride of zinc, as described in the former cases, and in less than five minutes, shaped the cavity properly, without pain, and plugged the tooth before she left the chair. It has given entire satisfaction, and the plug remains.

We might add hundreds of cases of a similar character. The question is frequently asked, how should it be applied ? Ought it to be combined with any other substances, such as flour, sulph. morphia, &c. ? We would answer, that inasmuch as it is highly deliquescent in air, and unites rapidly with the dampness of the mouth, that the more concentrated it can be brought in contact with the dentine the better ; and that the narcotics are too slow in their action to cut off the pain that it usually excites ; so that but little, if any thing at all, can be gained by their combination with it. We frequently dry the cavity as much as possible, and place a small crystal in contact with the sensitive part, and let it remain until it has deliquesced, when, as a general rule, it will have done its work. It very frequently happens that we find the teeth of young patients extremely sensitive, and so much of the decomposed part of the tooth still remaining in the cavity, that we cannot remove enough to know whether the pulp is exposed or not. In such cases we apply it on cotton, and let it remain for a day, and renew it three or four times, when, as a general rule, we can remove a considerable portion of the decay, and form a better diagnosis ; if, in other words, we apply a sufficient quantity, and long enough to penetrate through the thick stratum of decay, so as to come in contact with the living bone or sensitive parts, we can remove the decay without causing much pain.

For the Dental News Letter.

IMPROVED SETS OF ARTIFICIAL TEETH.

BY MAHLON LOOMIS.

Messrs. Editors:—There have been so many “improvements” recently in the various departments of dentistry, that I am not much surprised at the manner in which you spoke, in the last number of the News Letter, of the announcement I made to you in relation to my new style for sets of teeth.

Unperfected as the process for accomplishing this thing may yet be,

still it answers a perfect end; and simple as the thing is, yet I am convinced it will supersede other methods for sets of artificial teeth. My convictions are based upon experience, and the demonstration of a principle is more satisfactory than any thing merely theoretical.

I will make a brief statement of the thing, and of the general principles by which it is accomplished; and if you choose, you can make from it a paragraph for your columns.

Now, the making of sets of teeth entirely of porcelain, has doubtless been thought of often enough, but its practical utility is now demonstrated. It might be supposed, that a set made without any metal, but the teeth all continuous, with a porcelain plate, would feel clumsy in the mouth; or, if made sufficiently thin, that they would not be strong enough for actual service. But the facts are otherwise. The absorption which has taken place in the upper gum is not fully nor properly restored by setting teeth upon a plate in the usual way, but the gradual slope from the antrum to the ends of the teeth is easily given in my style, and thus considerable thickness may be given to the plate, where it meets with the teeth, but made gradually thinner to the middle, and at its rear edge, so that the mouth is restored to its natural shape, and strength is given to the manufacture without clumsiness of feeling.

I doubt not, some better way may be found to accomplish the purpose, than I now use, but the method I employ *answers a perfect end*.

First, a cast of the mouth is taken in the usual way, and some metallic plate accurately fitted to the gums. These plates are filled with plaster, and these plaster casts are cut twice apart at right angles. The parts separated (to correspond in measurement to the amount of shrinkage) and filled between with plaster, then finished as in making casts for block-work. The porcelain material is shaped and carved upon these casts, then baked in the usual way of manufacturing teeth, and finally ground on their inside surfaces, both for the purpose of nicety of adaptation, and to obtain for that part which fits to the mouth, that peculiar surface which grinding gives.

The advantages gained by making sets of teeth in this way, are by no means inconsiderable. A set of this style may be relied upon for cleanliness and purity, for there is no joint or crevice in the work. The labor for making a set is greatly reduced and simplified; it is certainly safe to say the labor required is less by one-half, although *it requires skill*; and a clumsy workman need not expect to do it. And, at the risk of saying that which will be no recommendation to this

style of work in the views of some, yet it is self-evident, that it may be afforded for a much lower price.

REMARKS ON THE ABOVE.

The writer of the above called upon us some weeks since, and explained his patent method of mounting or inserting teeth without any metallic substance whatever, showing us, at the same, time specimens, which we must say were very pretty; and as he seemed to (and others may) look upon it as a very important improvement, we will endeavor to describe it in our own way, and at his request give our views upon it, deduced from our experience in the manufacture of porcelain teeth and blocks.

Imagine a piece of porcelain work in which the whole arch, including fourteen or sixteen teeth, and the plate covering the entire roof of the mouth, or as much of it as is ordinarily covered by a suction plate, *all made of one piece of porcelain*, and you have the improvement.

Now, let us run over the process, and consider the difficulties to be encountered in making, and the utility after being made. Here we have a large body, or rather a large surface of porcelain; and all acquainted with handling material of this kind, will readily acknowledge the difficulty of carving such a piece of work, particularly the plate running over the roof of the mouth, because of the extreme tenderness of the material, and its necessity for being very thin, or otherwise it will be too clumsy to be worn in the mouth. Allowing this to have been accomplished, we come to a still greater difficulty, that of a *proper allowance for shrinkage*. Our experience proves that ordinary tooth or block body, or any combination of the materials ordinarily used in the manufacture of teeth, possessing the quality of translucency, will shrink from one-sixth to one-eighth in burning. Now, how will such an allowance be made? and will the shrinkage be equal? Experience may *partially* meet these difficulties, but never completely. The laws governing them are not under control. If the case, therefore, should shrink laterally as per allowance made, it will very probably be so warped that it cannot be ground into a proper shape. Three cases out of four will result as above stated, if even a worse mishap does not occur, that of the piece splitting or cracking in burning. Presume that we have been very successful in bringing the case (or a duplicate of it) through all the difficulties and dangers so far, we have now to grind it up to the model,—to make a perfect fit. This, we opine, will be no trifling matter. We all know the perfect adaptation required in fitting an atmospheric plate to the mouth, and the trouble it gives sometimes,

(we are not one of those who believe plates *always* fit,) but in this case we have to *grind* it to fit, not stamp it up, as with plate, but *grind, grind, grind*.

We will now suppose it is all done, and done to the satisfaction of all parties interested. How often do our patients come back to us with a tooth broken off, or, if it be a case of block-work, with a block broken? Now, compare a tooth or a block with this thin delicate plate of porcelain, and we may safely conclude that the same cause which broke the tooth, or block, would reduce this to fragments, in which case an entire new set is required.

To sum up, then, let us state more concisely the difficulties which, we conceive, are in the way of rendering this process practical:—1st, the difficulty and risk in carving; 2d, the impossibility of making an exact allowance for shrinkage; 3d, to prevent warping, and to avoid the risk of splitting or parting while in burning, or after being removed from the fire; 4th, the labor and difficulty in grinding the case to fit; 5th, the exceeding frailty of the piece after being made; and, 6th, the expense in time and labor.

We regret we cannot see the matter in the same favorable light with the author, but we have given our experience only, and at the same time hope for more light on the subject.

J. R. M'C.

For the Dental News Letter.

ALLOYING GOLD.

Messrs. Editors:—In the last number of the Dental News Letter I noticed an elaborate article on alloying gold, from the pen of Dr. Buckingham.

I took occasion to compare his formula with one I have used many years, and though the result is the same in both cases, still I cannot help thinking the shorter the better process; it is this:

“Multiply the quantity by its own karat, and divide the product by the karat required; the difference between the quotient and quantity is the necessary alloy.” For instance, take a \$20 piece, 516 grs. $\times 21.6 = 11,145.6 \div 18 = 619.2$, from which subtract the quantity, 516, and we have 103.2,—the alloy to be added.

This is the application of the Rule of Three to dentistry,—a very certain and efficient rule, and one within the comprehension of the dullest intellect.

The foregoing formula applies to the manufacture of solders of all degrees of fineness.

Yours,

S. DUNCAN, M. D., M. M. S. S.

DENTISTRY IN CALIFORNIA.

Without doubt dental operations are better performed in the Golden Land than in any other part of the world, (in the majority of cases.) Every dentist operates here without regard to cost, and material is of no consequence. Every one expects to pay well and have their operations done well. There is no such a thing as cheap Dentistry. In fact you dare not compete by prices. If you wish a position, it must be the work, not the charge. Sometime since, being called on to extract a tooth for a gentleman, he asked the cost, on being told two dollars, seemed astonished, saying—"That is too low." He handed me five dollars and refused change, that being the usual charge. Having been sent to me by a friend, he called on his recommendation and said, "I believe Dr. F. a good dentist, and want some teeth placed, yet I fear he charges too little to do it well." A few days after he called and asked me the cost of placing six teeth on gold plate. Being determined to charge enough, I told him one hundred and fifty dollars; he was satisfied. Again, being called to fill some teeth for a lady, I almost feared to mention the charge, it seemed so high after the Philadelphia prices; I told her I would fix all, as there were five to fill, for thirty dollars. She looked astonished, saying, "You cannot do them well for that." Again I saw my mistake, and asked her again to let me examine them. I told her I had made a mistake, charged fifty dollars and finished the operation.

It is useless to try to compete, as I have before said, in prices, work and fine work alone will bring patients. Many persons imagine that the climate is detrimental to the preservation of the teeth, as it seems a very difficult thing to keep them in any kind of proper order. It is generally cold and clear in the mornings until 10 o'clock, after that hour high winds prevail until 4 o'clock, and the evenings are foggy and chilly. Persons in general, believe that these changes have the effect of decaying the teeth by producing insensible colds, and causing an inflammation of the gums. Having examined the mouth, of a great many, I was astonished to find nearly all their teeth coated with tartar, although the greatest pains had been taken to remove all deposit by the daily use of the brush. I was unable to account for it at first, (I know that such a thing is common at home, but can almost always be prevented by daily cleaning.) A friend called on me to have his teeth cleaned. I told him he should be more careful. He said that he always cleaned them two and three times each day. I determined to find the cause. I was astonished not to be troubled in

the same manner myself. Living in a private family, I always took my meals at regular hours, and the majority, boarding at restaurants, I thought it must be owing to some derangement of the system. After inquiring of many, I found that those who lived regular and eat a reasonable amount of vegetable food, were in most cases less liable to the deposit of tartar, and their mouths and teeth in a more healthy state.

I really believe this to be the best place in the world for dentists, for as every one is willing to pay fair prices they have no excuse for bad work. If people in the old States could be made believe that the prices they pay for some operations would not pay the cost of material, there would not be such awful work done. Sometimes I am called to repair work done in Philadelphia and New York, and to tell the truth it seems more like blacksmithing than Dentistry. How much better it would be for dentists to have some regular prices and hold to them, than to put forth such work. They will say they must work according to the prices—this is sometimes true; yet, in many cases it would be better to make nothing and do good operations, for in the end it will be to the advantage of the dentist. Since I have been in San Francisco I have seen much work done by European dentists, and mercury fillings to the number of fifteen in a single mouth. At one time I thought the action of the American Society of Dental Surgeons wrong in being so particular with regard to this kind of filling, now I believe them to be right. There are cases where it can be used with advantage; in cases where but a single tooth remains on one side and is absolutely required for mastication. And even a single filling will, in many cases, exert a baneful influence over the other teeth. If sponge gold can be made to take the place of it, then no one will be justifiable in using mercury. I have been using powder of cantharides, or Spanish flies, for destroying nerves and curing sensitive teeth, and in most cases it has been the best thing I have yet seen; it is used by old Indian doctors, and I was first advised of it by a gentleman who had been cured of tooth-ache by one whilst in Mexico. Being curious to find what would destroy the nerve without pain, he bought some, and when he came to San Francisco; gave it to me; I found it to be, as I have before said, powdered Spanish flies. I have used it for many months with the greatest success. To make sure of it acting, you must clean the cavity as well as possible and have the nerve exposed so that it can act on it. In many cases, even in the worst teeth, a single application will be sufficient. In cases where the tooth is only tender it acts to a charm. Where you do not wish to destroy the nerve, it is the best thing I have

ever seen; it will take away the inflammation, and by capping the tooth well, there will be no danger of further trouble. In cases where you wish to destroy the nerve, from two to four applications will be necessary. The great advantage over other remedies is, that it creates but little or no inflammation. The manner of using is as follows:—After cleaning the cavity, moisten the powder with laudanum and fill it with as much as possible and cover with wax; six hours will be sufficient for it to remain; if the first is not sufficient, repeat; allow the cavity to remain open for at least two weeks. I have seen cases that had been done over six months. Perhaps the California prices for dental operations may interest:—Extracting, \$5; filling, \$5 to \$16; destroying nerve, \$5; scaling, \$10; single teeth, gold, \$25 to \$35; full upper, \$250; full sets, upper and under, \$350 to \$500.

A. G. FRENAYE, D. D. S.,

Musical Hall Building, San Francisco, Cal.

For the Dental News Letter.

SUPERNUMERARY TEETH.

Messrs. Editors:—Recently I had a patient, who came in and wished to have a tooth removed. It was a decayed tooth, and had been paining him very severely. I extracted it, and thought no more of it. In a few days he returned, and told me he had suffered very severely ever since I took the tooth out, (it was a left upper second bicuspid that I took out.) I examined his mouth—it was healed over. I then examined the first molar on the same side, and noticed a small conical-shaped tooth, or root, just through the gum on the outer surface of the tooth. I questioned him in regard to it; he said it had been there about one year. Not being wholly satisfied with its appearance, I ventured to remove the gum from it with my lancet. After separating the gum from it, I tried to get hold of it with a pair of forceps, but it was of such a conical shape, I could not make them hold on to it. I told him I should have to cut deeper, but rather than undergo the operation, he chose to try it a few days longer.

In a few days he returned; it had pained him every night, but was easy during the day. I then cut the gum down, and laid a small flap over, so I could get hold with a small pair of forceps, and extracted it. It proved to be a small conical-shaped tooth, with a prong nearly three-quarters of an inch in length. It was very dense, and altogether like the firmest dentine. Where was it formed, and how came it there? Is it common to find supernumerary teeth in that place.

Yours,

S. V. HOWARD, Dentist.

Skowhegan, Me.

For the Dental News Letter.

MATERIALS FOR PLUGGING TEETH, &c.

BY PROFESSOR J. D. WHITE.

When we entered upon the study of Dentistry, about seventeen years ago, we found that it was—at least among a great many dentists—a subject of much interest as to what kind of substance, and in what condition a substance should be to be best suited for plugging teeth. It was a little before that time that the Crawcour's, with their succedanium flourished; however infamous their career ended in this country, they left their poison behind, which spreads its baneful influence yet throughout the profession, in some shape or other. We do not mean here to condemn those who, at an early period of their professional studies, adopted the use of pastes and alloys, and became attached to them before they were able to judge from principles and experience what was best suited to their higher wants. We know well that there are many honorable men who, from some cause or other, evade the use of gold for reasons which they cannot sustain by pointing to any deficiency, in gold foil meeting all the really substantial and useful wants of the dental profession. *Platina*, *silver* and *tin*, were in turn tried, but the two first named metals have been long since dropped; but if we were to judge from the frequency with which the former names are applied to plugs bearing their complication, by our patients, there is very little of the latter used. Indeed, some patients are indignant when we inquire of them whether they will continue to have their teeth plugged with *tin*, seeing for the first time they came to us, that they had been yielding to its use, to a considerable extent, they having been told by their dentists, in whom they had every confidence, that it was *platina* or *silver*; this makes out a case in which we know that the profession have not been, and are not yet candid. For the sake of truth, we will cite a case of our *dear preceptor*, who claimed to be a high-minded member of the profession, that occurred during our period of pupilage. A very distinguished old judge called to have a number of teeth plugged, he wished them plugged with the best and least destructable material, when the properties of gold and *platina* (*tin*) were learnedly discussed, together with the difference in price. The price of *platina* was to be two dollars, and *gold* one dollar and a half; the judge chose the former and the operations were performed, and a certificate given as to how well he was pleased. This same member of the profession used a paste for a few favorite patients, which we incidentally learned was put into the cavity *hot*, but which was held from us as a secret, as it was not mentioned in the agreement of

studies. But we, as an ambitious student, did not like to be cut off from fair prospects of success in the profession of our choice, by any such deficiencies; we therefore entered upon a series of experiments, aided by an intelligent physician, and obtained a similar substance, which was put into the tooth with a *hot instrument*. We used this substance under the scientific name of *Terro Metallic Compound*, and proposed to use it for such cases *only* as could not be plugged with gold, and roots of teeth. We used this for five or six of our medical friends, who deemed it to be invaluable, and four of the number voluntarily handed us certificates of its merits, which they expected us to use, to usher it into general use. The following is a true copy of one of those flattering testimonials of our *skill* at that time:

“PHILADELPHIA, 9th March, 1839.

“*Dear Sir* :—It gives me sincere pleasure to state, that the teeth plugged by you with your metallic compound, some months since, have afforded me entire satisfaction in every respect. I may state, that two were stumps, and that since they have been filled, the gums have been restored to a healthy condition, from being spongy and painful. The others were an eye tooth, which had been plugged some years ago by the late E. Hudson, and a large double back tooth, about one-third gone, both of which had been pronounced by other dentists as too far advanced to be saved by plugging, several weeks before my applying to you.

“Permit me, in conclusion, to express a high opinion of the skill and dexterity displayed, in cleansing and plugging, by yourself, and of the facility with which the metallic compound can be used.

“Very respectfully, your obedient servant,

“A—— D——, M. D.

“To MR. WHITE, Surgeon Dentist.”

Now, I would ask, would it be surprising if such an array of complimentary certificates would turn the brain of a young dentist with a goodly share of self-conceit? But, unfortunately, we were not long permitted to enjoy the high hopes of future greatness and prosperity which these flattering letters were calculated to excite in our mind. One of the most distinguished of the authors of these letters, advised us to take his letter to one of the Professors of the University of Pennsylvania, in order that he might endorse what had been said of the merits of the compound, and establish at once, beyond cavil, its character as a superior substance for plugging teeth. Judge of the terrible blow we, poor innocent, was doomed to receive. The learned Professor first looked at the author's name, and then to the purport of the letter, and then,

with an eye flashing with indignation, which we will never forget, he hurriedly folded the letter but partially, and thrust it back into our hands, accompanied with the exclamation, in the most emphatic manner, “*’Tis a prostitution of the name,*” and turned away from us. We found our way out as well as we could, blushing with shame, mingled with the satisfaction that we had learned a deeper lesson than had ever fallen to our lot to learn before. When we collected our thoughts about us, we believed we were now, as it were, between two great barriers to success in life; on the one side, unreliable and false friends, and on the other, an intelligence and integrity that would forever baffle the machinations of quackery. So we laid our letters and *compound* away, and applied our energies and talents to a different class of studies. We adhered to *pure gold* as a material for plugging teeth, and employed our time in seeking out the purer compounds of scientific truth. And, without letters of ill-advised friends, or base alloys under unmeaning terms, have long since met this same Professor face to face and eye to eye, though humbly, still without shame. He has been of great value to us, the others alluded to, of absolute injury; he is still one of the brightest lights in the scientific world, but the rest remain in obscurity.

J. D. W.

For the Dental News Letter.

MEETING OF THE AMERICAN SOCIETY OF DENTAL SURGEONS.

DEAR DOCTOR:—Yours of July 19th, was received, and I thank you for your promptness in replying to mine, though I must confess I felt sorry that you of the East had thought it necessary to postpone the meeting; but we will hope it was all for the best interests of the Society—the Secretary was not sufficiently careful in sending circulars, notifying members, however; neither Dr. Goddard nor myself received any, and as others than members usually attend, some general notice, which the profession at large would see, would be desirable in any future postponement. Several respectable dentists met here at the time, as you will see by the enclosed, and Dr. Taylor and myself tried to make their visit as pleasant as we could under the circumstances. I send some proceedings which, if you have no objection, I would wish handed to the “News Letter” for publication, as was wished by those present.

Yours sincerely,

CHARLES BONSALE.

Cincinnati, Aug. 10th, 1834.

A number of dentists from different places, who had come to Cincinnati to meet the “American Society,” convened on Tuesday,

August 1st, 1854, at the Burnet house. There were present, Drs. W. H. Goddard and Samuel Griffith, of Louisville, Ky., C. W. Spalding, of St. Louis, Mo., — Wheeler, of Murfreesborough, Tenn., W. H. Dwinelle, of Cazenovia, N. Y., Professor H. R. Smith, of Terre Haute, Ind., and Drs. James Taylor, Charles Bonsall, Joseph Taylor, and A. Berry, of Cincinnati. Most of the afternoon was passed in an examination of samples of crystal gold, made by A. J. Watt, of Utica, N. Y., and a comparison of plugs made by him and other makers of crystal and foil gold, which examination was conducted partly by the use of a powerful microscope, and appeared to satisfy all present of its great superiority over other crystal, and for many cavities over foil gold. Before the adjournment, the company visited the new building, now in course of completion, belonging to and for the use of the Ohio Dental College Association; the gentlemen present were much pleased with the appearance and adaptation of the building to the purpose it is intended for, and considered it highly creditable to the West; particularly as being the only complete college building belonging to the profession and devoted entirely to the purposes of *dental education*.

Adjourned to meet at the house of Dr. James Taylor, at 7, P. M.

Met according to adjournment, when Dr. Goddard was chosen Chairman and Dr. Bonsall, Secretary.

On motion, the chair named Drs. Spalding, James Taylor and Smith a committee on business, who reported a resolution of regret that the notice of the postponement of the meeting of the "American Society of Dental Surgeons," to have been held here this day, had not been more generally sent out, particularly to the members of the Society, two or three of those present having received no notice; also regretting an apparent misapprehension in relation to the health of this country, together with an assurance that Cincinnati is, and has been, during the season, almost entirely free from cholera, probably *more so* than either of the larger eastern cities; and so far as the necessity for using the "Western Waters," as a medium for reaching Cincinnati is concerned, we would assure our brethren, that our country is well supplied with railroads, so that the rivers may be dispensed with for that purpose.

The committee also suggest the fourth Tuesday, being the 24th day of October, as a proper time for the meeting of the Society, which would give time for such gentlemen as are connected with either of the dental schools to get home before the terms commence, on November 6th, and we will hope for a full delegation from the North and East, as well as from the South and West at that time, and that we will

cordially extend the hospitalities of the West to such of our professional brethren as may attend then.

The foregoing resolutions were approved, and after a resolution of thanks to our host, adjourned.

C. BONSALE, *Secretary*.

We are instructed by the President of the American Society of Dental Surgeons, Prof. E. Townsend, to say it was not from any fear of the cholera at Cincinnati, that induced him to postpone the meeting of the Society, at that place, in August; but from the fact that, as it had made its appearance at several southern and western points early in the season, it might become epidemic there at the time of the meeting of the Society, and as he had received several letters from New York urging him to have the meeting postponed on that account, and it was also generally understood that the eastern and northern dentists would not go on. The reason why the notices were not sent sooner was, that he was extremely anxious that the meeting should be held, until the general routes of travel were infected with the disease, and so many dentists here urging him not to have the meeting held. We were among the number to advise the meeting, as we were unwilling to risk the journey at that season of the year. He also further states, that he does not deem it the best time to meet on the 24th of October, as it is at a time when the books of the northern and eastern dentists are more crowded with engagements than any other period of the year, as they are only fairly under way after the summer vacation. Their patients have all gathered to the cities, and are in want of their services. He proposes to call a meeting some time in May next, and will give due notice through the Secretary. The meeting will be called at Cincinnati, as he does not wish to be cheated out of the pleasure of meeting the southern and western members of the profession beyond the mountains. He is extremely sorry that the notices were not received in time, or that any should have been overlooked. We would state, on our own responsibility, that we hope the meetings henceforth will be in the early part of the summer, as it is a much pleasanter part of the year to travel. There was a time when the members of this Society could afford to resort to the favorite watering places, to spend time and money in doing *nothing*; but the time has come, the Society is old enough to go to work for itself, to do something worthy of its age.

We have had the honor of meeting this Society three times, and as often there was little done but hurriedly forcing through the secular

business of the Society, and then the principal officers and members would disperse as quickly as possible. J. D. W.

Since the above was in type, we have been requested, by the President, Dr. E. Townsend, to announce the meeting of the American Society of Dental Surgeons, for the second Tuesday in May, 1855. The Secretary will inform the members individually. J. D. W.

For the Dental News Letter

MELTING AND REFINING GOLD AND SILVER.

BY PROF. T. L. BUCKINGHAM.

Messrs. Editors:—To prepare gold or silver for our use requires so little knowledge or skill, (1) that I am often surprised to hear of dentists who use a large amount, either buying their plate, or depending upon others to get it out for them. The profit (2) derived from it, if no other inducement could be offered, should be sufficient to induce every one to prepare his own. Then, if we take into consideration that to perform the other manipulations in the laboratory requires nearly all the apparatus necessary, the inducements are still stronger.

The description of the process given in most of the books, is so mixed-up with scientific terms and forms, that it is almost impossible for a person, who has not received a thorough chemical education, to understand them. The books themselves are many times only mere copies of other works, put in the author's own language, containing not only what is correct and practical, but also many of their errors. This probably arises from the fact, that most of the writers upon these subjects are not practical operators themselves, and hence their difficulty in judging between what is correct or erroneous. The chemist, when there are two or three processes given to assay a metal, may adopt any of them, without regard to time or expense; but in a laboratory, where time and expense are to be taken into consideration, we must adopt the most practical process. I shall, in this article, endeavor to give a plain practical description of the process of preparing gold and silver for our use.

The apparatus necessary is a furnace, crucibles, tongs, ingot, rolls and gauge plate, &c.

A common ordinary draught furnace will answer every purpose. In winter I use the stove which heats the laboratory, and in summer a small furnace I have had built in the fire-place. Charcoal is recommended, and is the best fuel we can use, but I find anthracite coal to answer every purpose. The only danger to be apprehended is, that the gas might impair the ductility of the metal. If the coal is tho-

roughly ignited, and there has been no metal spilled in the fire since it has been lighted, there is little danger to be apprehended from the gas. The other portion of the apparatus I will not describe here.

To make gold coin into plate, all that is necessary (after the amount of alloy has been weighed out) is to put the coin and alloy into a clean crucible, and throw in a small piece of borax; it is not important how much borax is used, there should always be enough to cover the metal when it is melted.

The ingot should be oiled, and then heated nearly hot enough to burn the oil. The crucible should be shaken when it is lifted from the fire, and then the melted metal poured suddenly into the ingot. The ingot should not be too thin. It is an error to think we save labor by casting our metal very thin. The metal works much better, when it is cast tolerably thick, and hammered and rolled down, than when cast very thin.

To reduce the ingot* to plate, it should first be hammered (3) on an anvil, to a uniform thickness. We very often find pits or depressions in the ingot, caused by the borax, or some foreign matter getting into the ingot before the metal, or from the metal being too cold when it was poured. If the ingot is rolled with these pits in it, they nearly always break out into holes, and thus spoil the plate very much.

The hammering toughens the metal, and makes it work much better. It should be hammered with moderately light blows, or else it does more injury than good. After it has been well hammered, we can commence rolling it. This should also be done by reducing it gradually: not too much at one time. When it has become tolerably thin, say 18 or 20 of the gauge plate, it may be passed two or three times through the rolls without altering them; in this way it may be reduced to the thickness required.

The plate should be annealed frequently (4) during the rolling. When the direction is changed (if we have been rolling it lengthwise, and want to make it wider) it should always be annealed.

We sometimes wish to have our plates thicker in some parts than they are in others. This may be done by passing three parts of the way through the rolls, and then rolling them back again; or, if we want an upper plate thinner on the palatine portion than it is on the alveolar ridge, this can easily be done by passing it loosely half way through the rolls, and then screwing one end of the roll down, and rolling the plate backwards and forwards several times. The rolls must be

* The term ingot is used to express both the mould in which the metal is cast, and the metal itself after it is cast.

loosened before the plate is taken out. In this way we can roll a plate so as to have one part thick and the other quite thin. (5)

I have only been describing the process of reducing coin to plate. We have also to melt our scraps and filings. These are sometimes very troublesome, unless we take the precaution to have them clean before we melt them.

The scraps and filings should be separated; which can easily be done with a small seive. The scraps should then be picked over, and all the pieces of lead, zinc, or other foreign metals carefully removed; and also the pieces of gold that have solder or platina attached to them, should be placed by themselves. The clean scraps may be melted again with the coin.

The scraps that contain solder or platina should be melted by themselves, (or refined if they contain too much alloy,) and used for clasps or stays. They are usually not fit for plate, even if they are fine enough, as the platina gives the plate a very dull appearance, and also makes it very stiff and elastic. This makes them better for stays or clasps than for plate.

With the filings, the usual process is first to run a magnet through them, to remove the iron or steel, then to melt them with saltpetre and borax, and keep them melted for some time. This, in many cases, will burn out all the foreign metals. If this fails, and the mass will not work, it must be melted again with borax and a small piece (about the size of a pea) of corrosive sublimate, thrown in while the metal is melted, and allowed to burn out. The metal may sometimes be toughened by throwing in one or two pieces of sulphur (about the size of a pea) and then shaking the crucible.

The proper flux to be used depends altogether upon the baser metals present. These may be in very small quantities, and yet render the metal too brittle to be worked. It is said that the one two-thousandth part of tin will prevent gold from working, and it takes very little more zinc or lead to do the same. If tin is present, which is very seldom the case, a very good flux is a mixture of soda, borax and potash.

By repeated meltings with some of the above fluxes, and keeping the metal melted for some length of time at each melting, we can nearly always get our gold to work; but sometimes, in spite of all our care and pains, it will not work. It is then necessary to refine it. This process I will describe in another place.

I adopted a process two or three years ago, by which I have never failed to get my filings to work, when I have conducted it properly. It is to put the filings into an evaporating dish, and pour over them some nitric acid, then stand the dish in a warm place for an hour or two.

If I think the nitric acid has not dissolved all the metals that can be dissolved by it, I pour off the supernatant liquor into a vessel kept for this purpose, and add fresh acid. The action of the acid continues as long as the yellow fumes rise. The filings are now washed with water until the water comes off free from acid. This removes all the zinc, lead, iron or copper, the silver filings, if any are present, are also dissolved; (to recover the silver is the object of saving the acid.) For fear that there may be some other metal present, that nitric acid will not dissolve, I pour over the filings muriatic acid, and let it stand awhile. This is poured off and thrown away, and the filings washed with water, and then dried; they are now melted with borax, in a clean crucible. By this process I not only clean my filings, but partially refine them, which in some measure makes up for the extra alloy in the solder.

I need hardly say, that all the metals used to alloy gold with, should be as pure as they can be obtained. Pure silver can be prepared in the laboratory. For copper, pennies may be used, which, if not perfectly pure, are at least better than the copper sold in sheets. These are the only two metals used to alloy gold for plate; brass is sometimes used to make solder.

When we alloy a metal, requiring a high degree of heat to melt it, with one that melts at a much lower degree, we should always melt the one which requires the highest degree first, and then add the other while it is melted. If both metals were put in the crucible at first, a considerable portion of the one melting at the lowest heat, would be burnt out before the other was melted.

There are several processes given to refine gold. I shall only describe one, however, viz: the process by quartation—named so from the fact that the gold in the mass should only be about one-fourth. Add to the gold to be refined, two and a half or three times its weight of silver; then melt the mass, in a clean crucible, with borax, and granulate it, (it is better to melt and granulate it the second time, to have it thoroughly mixed,) or it may be cast in an ingot, and rolled down into a very thin ribbon. It is then placed in an evaporating dish, and nitric acid poured on it to dissolve out the alloy. The gold is left in the bottom of the dish, in a black powder. It is now to be melted with borax, to get it into a solid state. If this process has been conducted properly, the gold will be about 22½ or 23 karat fine. To refine it further, it must be dissolved in aqua regia, and precipitated with the sulphate of iron. As I am only describing the process of preparing gold for plate, it is not necessary for me to carry on the process until we get the gold perfectly pure.

By the above process, gold may be separated from nearly all the platina, and the most of the other foreign metals, and rendered sufficiently pure for all purposes in the laboratory. The acids used for refining should be pure. The common nitric acids of the shops nearly always contain muriatic acid, and the muriatic generally more or less nitric. These two acids should never be used together, unless it is when we want to dissolve gold in platina.

Silver coin only requires melting and rolling to be fit for use; it contains a sufficient amount of alloy without having any more added. In melting silver, borax and then saltpetre, if it is necessary, is used for a flux. I adopt the same process to clean my silver that I do to clean my gold, (viz: seiving and picking it.) The filings and pieces that contain much solder I dissolve. This is done by putting them in an evaporating dish, (a common saucer will answer every purpose of an evaporating dish, only it will not stand the heat so well,) and pouring over them nitric acid; an immediate action commences. The yellow fumes that rise show how long the acid continues to act. If the action ceases before the metal is all dissolved, the supernatant liquor must be poured off and more acid added. There is generally a sufficient quantity of gold left in the dish to pay for the whole process, for, allow us to be ever so careful, there will always be some gold in the shape of scraps, punchings or filings stick to the tools and find its way among the silver. The acid in which the silver has been dissolved should now be diluted with a large quantity of water, (say six or eight times the quantity of the acid.) The silver can now be precipitated with muriatic acid, or what answers equally as well, a saturated solution of common salt made with warm water. This should be poured in, in small quantities, until a precipitate ceases to form. When the solution of salt is added, a white, curdy precipitate of the chloride of silver is immediately formed, which very soon settles to the bottom. This must be washed by pouring fresh water on it, and pouring it off again, until the water comes off free from acid. The chloride should now be dried by setting it in an evaporating dish in a warm place.

The chloride may be rendered to metallic silver by several processes. The cheapest process for large quantities is probably the one adopted by the United States Mint in this city, where they reduce about one thousand pounds per day. They use sulphuric acid and zinc. The zinc is granulated to divide into small particles; the chloride of silver is mixed with a quantity of water acidulated with sulphuric acid; the zinc is then added. By the action of the sulphuric acid upon the zinc,

hydrogen gas is set free, which combines with the chlorine of the silver, converting it into hydrochloric acid. This action goes on until the silver is deprived of the chlorine; it is then in the bottom of the vessel in a gray spongy mass.* Now it is dried and melted in black lead or sand crucibles with saltpetre and borax. By this process silver can be obtained nearly pure, (about 997 thousandths fine.)

In a dental laboratory, where a small expense is not so much an object as it is to have a process that can be performed readily, I think, probably, the best process is with carbonate of potash, about twice the weight of the chloride of silver. Put this in a large crucible so that it may not fill the crucible more than two-thirds full, and melt it in a good strong fire; when it is melted, the chloride of silver being previously dried, is dropped in, in small pieces. If there is too much thrown in at one time, it causes a boiling and spirting, which is very apt to eject some of the silver. When all the chloride has been added, the heat should be increased so as to melt the silver. It can then be taken out and allowed to cool, the crucible then broken, when the silver will be found in a button at the bottom.

REMARKS ON THE ABOVE.

We are always pleased to receive such papers as the above—practical in character, simple in style, and well calculated to instruct. We trust the writer will not find fault if we add our experience in the same field, though we may differ.

We take the points as they occur in the article:

1st. We must here differ, as we consider some skill and more practice necessary to get out plate properly. We may be successful in nine cases out of ten, but the tenth may give us considerable trouble, and involve much labor to bring the matter to a satisfactory termination, as is subsequently stated in the above article.

2d. Now as 18 karat gold plate can be bought, cut to pattern, at ninety cents per dwt., the profit, not including labor, etc., would be just nine per cent. in favor of the dentist, from which is to be deducted, time, fuel and the use of appliances, and we then come at the net saving. Let those interested strike the balance.

3d. This hammering we never found to be of any great service. Eighteen karat gold, if properly melted and rolled, will be found quite as malleable without hammering as with it.

Lower grades of gold, such as jewellers use, may be improved by the process, and it is doubtless from them that this practice has become so general.

* There should always be an excess of acid in order to dissolve all the zinc.

4th. Here again we must differ. Our experience is that frequent annealing, while rolling, blisters the plate. Three or four annealings, in rolling down from an ordinary ingot, to No. 26, gauge plate, we have found quite sufficient. We wish it remembered that we speak in reference to plate not less than eighteen karats fine.

5th. The manner the author adopts to vary the thickness of his plate is very ingenious and is a new and good feature.

We wish now to say a few words as to the propriety of a dentist getting out his own plate, refining, melting, etc. If he have no assistant we must certainly look upon it as impolitic and a positive injustice to his patients, for the reason that the handling of acids, coal, crucibles, tongs, hammer, etc., are not calculated to fit him or his *hands* for the operating room—for delicate operations in the mouths of delicate females. We would say, learn the process—know all that is to be known, but do not practice it and plugging teeth at the same time. J. R. M'C.

For the Dental News Letter.

A RIDDLE.

BY A LADY.

I had a friend, a darling friend,
 Who served me many a day,
 But when his strength began to fail,
 I wished him far away.

For now whene'er I asked his aid,
 Some service to bestow,
 Such marks of anger he display'd
 As proved he was my foe.

And then his looks, once fair and sweet,
 Assumed a darksome frown,
 And long I wished for his retreat,
 Ere I the wish could own.

Poor wretch, I trembled to dislodge,
 Thus from his native soil,
 But his ill humors much I feared
 Would all my servants spoil.

Though then my house was well supplied,
 With servants large and small,
 Yet by retaining one so bad,
 I now have lost them all.

Ans wer.—A TOOTH.

THE DENTAL NEWS LETTER.

OCTOBER, 1854.

SPONGE GOLD.

This preparation of gold for filling teeth has had, we think, a pretty fair trial, at least in our hands. We were not very sanguine in our hopes of it ever meeting the high expectations of its inventors and more ardent advocates, although at first it looked more like the long sought for desideratum or substitute for gold foil, than any thing else that we ever saw or tried. It is now in the "collapsed stage" with us, and unless it receives some powerful and new stimulus from some new quarter it will most surely die. We made an honest endeavor to learn as much about its use as we could from its friends, and by experimenting with it for about one year, have failed to make satisfactory operations with it. Whether we did not succeed in learning all about the proper method of using it, we know not, and we are therefore open to further instructions. If we mistake not, we were told that it required less labor and time than gold foil—in this we have been sadly disappointed—and that it would take hold of a cavity much better than foil, or, in other words, a cavity that would not take foil could be safely plugged with this; we heard of it actually welding itself to the walls of a cavity; that upon breaking open a tooth that had been plugged with it, the gold would be found to have so united with the dentine as almost to defy its separation. This may be true in plugging a dry tooth out of the mouth by applying great pressure; but as to obtaining such results in the mouth, it is purely imaginative. We must confess we have, as well as some of our friends, increased our business by its use, because we have been obliged to do our work twice where once would have answered as well. The long duration of a plug depends more upon the deep hold it takes of a cavity, and the strength of the body of the plug than a hard surface or superficial hold, and these sponge gold plugs cannot be made hard and strong through their whole structure, at least if we may be permitted to judge from our own work as well as from that of our friends. This is the character of the work that comes to us from our friends. We believe, with Professor Townsend, that it is not likely ever to become useful as a permanent filling, and that we may make a bad filling with it and not know it; and we are quite sure that an inexperienced operator will make better operations with foil than with it. Some of the specimens

that we have used, have turned quite black and crumbled out of the cavity in a few weeks. Is this owing to a decomposition of the material in the fluids of the mouth? The points of the instruments became quite black in a very short time after plugging with it; to what is this owing? If a plug is rubbed much, especially while it is damp, it becomes quite black as if the oxidized steel mixed with the gold.

It is remarkable to reflect upon the various forms the preparations of gold for plugging teeth have assumed within the last few years. It is but a short time since we were regarded as behind the age, that we did not advocate and use strips of gold plate on needle-pointed instruments from under the gold beater's rollers, as heavy as No. 50; it was regarded as infinitely superior to the flimsy textures of Nos. 4 and 6; but now we have gold sub-divided into the smallest possible particles, and put into the cavity with a spatula or burr-head drill according to the size of the cavity. Now there must be a proper preparation somewhere between these two extremes, and we believe it to be in Nos. 4 and 6, with instruments so constructed as to carry it into a cavity without cutting it up too much, and yet sharp enough not to grasp so large a portion as will not become reasonably solid by applying as much pressure as a tooth and the parts will bear. We will trust to these means as sufficient to do justice to our patients and would advise the young members of the profession to follow our example.

J. D. W.

Resignation.—Professor Townsend, of the Philadelphia College of Dental Surgery, has, in consequence of impaired health, been compelled to resign his post in the above institution.

He has found that he must greatly diminish his practice, or resign his professorship, to save his health, and the latter was determined upon.

The duties of a large practice are quite sufficient for any man, but add to this the preparation and delivery of over forty lectures, beside the time given in the clinical department, and we have a task none but those in vigorous health are competent to perform. At the same time, therefore, that we regret his loss to the school, we acknowledge the necessity for the step he has taken.

He leaves the school with his best wishes for its success, and the kindest regard for the Faculty.

We are enabled to say that Dr. J. F. B. Flagg, of Philadelphia, is to fill the vacancy thus created. The reputation of this gentleman is a sufficient guarantee that the chair falls into competent hands.

See advertisement, on cover.

J. R. M'C.

Professional Boasting.—We have been induced to say a few words on this subject in the hope that by calling attention to it some good may result. Perhaps none have better opportunities of knowing the extent of this *failing* than ourselves. It is pretty general, although not so universal as in former years. We are thankful for the improvement, and trust that the evil may be entirely eradicated. See some of the various forms in which it manifests itself.

“Every hour of my time is engaged for the next *eight* weeks; cannot possibly see a patient till after that time.” “I have twenty full cases on hand; am driven to death.” “I cannot find time to eat; am up to twelve and one o’clock at night, and hard at it before breakfast in the morning.” “I never make a misfit.” “Never fail to give entire satisfaction with my work.” “Never have a plate to spring.” “Never have plugs to come out.” Nothing peculiar or remarkable happening to one, but that often occurred in the practice of others. No new invention or new mode of practice by one, but had been made or done often before in another’s practice; it was nothing new to them. There is nothing new to such. What wonderful stories we hear of the enormous prices charged and obtained, of the large sums paid for fillings or for the treatment and correction of irregularities. How many leave the impression upon the minds of their patients that they alone are competent to treat or save their teeth—that there are none others who could do them justice—and that their removal or death would be an irreparable loss to the community. It is all right that we should place a proper estimate on our abilities; but we may safely trust to our patients, their finding them out. We were particularly amused at a conversation, repeated to us, that occurred in a company of dentists on the subject of atmospheric plates. After each in turn had boasted of his success in making and fitting atmospheric plates, a gentleman from the “far West,” who happened to be in the company, stated that in one instance in his practice, in trying in a plate, the fit was so perfect that he was unable to remove it, and *that the lady was compelled to wear it to this day, without teeth, every effort to remove it having proved unsuccessful*. This was outheroing Herod, and had its good effect, for the time, on *that* company.

Now, if these boastings are done for effect, to impress the patient with the importance of the operator, the great extent of his business, and his great proficiency in his profession, we think it exceedingly impolitic; for ten chances to one they will not be believed. The intelligence of the hearer will not allow him to swallow such prodigious stories which, *although even true*, carry improbability on their very

face, and he leaves the operator either with pity for his egotism, or sorrow for his lack of honesty. Thus in either case the operator suffers.

The dentist in good practice needs no such clap-trap, and the one in poor practice will in the end be injured by it. Boast less and work more, and let the work boast for you—let it speak your praise, and you will have no occasion to blow your own horn.

In the language of a friend, "we love our friends and good hard fillings," but boasting we cannot abide. In a man it is evidence of a coward, and in a dentist it is presumptive, impolitic, uncalled for, and detrimental to both moral and professional character. J. R. M'C.

We regret greatly to announce the death of DR. LUDOLPH PARMLY, of this city, who died last night (29th June) at about 9 o'clock, of congestive fever, in the 42d year of his age. He was one of our most estimable citizens, of many years residence, and was one of the most eminent members of his profession in the South."

We are indebted to a friend at Mobile, for the above notice of the decease of Dr. L. Parmly. Dr. Ludolph Parmly was well known, and highly appreciated in the South, as a dental practitioner, and consequently enjoyed a large practice and a host of friends. We trust that some one well acquainted with the deceased, will furnish us with a more extended notice. J. R. M'C.

"THE DENTIST."—The June number of this German monthly has come to hand.

In glancing at the heads of the various articles, we find one "On the Anatomy and Physiology of Dentine, an Essay, read before the American Society of Dental Surgeons, by J. Dehaven White, M. D., D. D. S." Another, also, from an American author, Dr. Piggott.

We think the Editor of "The Dentist" is looking in the right direction for dental light. We wish him success in his praiseworthy enterprise. J. R. M'C.

Dr. B. Cohen.—This gentleman, a graduate of the Philadelphia College of Dental Surgery, and for several years a resident of Philadelphia, has, he informs us, located himself at Hamburg, in Germany, his native place.

From the short stop we made in Hamburg, a few years since, we formed the opinion that it would be a desirable location for a thoroughly educated dentist, as there appeared to be much wealth and intelligence there. We therefore predict his success, for which he has our best wishes. J. R. M'C.

The Baltimore Journal of Dental Science.—In our July number we noticed that the above Journal contained two articles from the Dental News Letter, for which it was not credited. In the July number of the Journal, received a few weeks since, the editor notices our charge and explains—that the quarterly summary was made up by an inexperienced hand, etc., which explanation would have been abundantly satisfactory had it ended there, but he goes further, and falls into an error or two which we wish to point out. He says, “As to the second article,” (which is an editorial by Dr. J. D. White, on Risodontrypy, and published in the January number of the News Letter,) “it appeared under the head of Quarterly Summary,” etc. Again, “neglected to give credit to the *periodical* in which the article appeared, but fully acknowledged its *authorship* by giving Dr. White’s name in full.” etc.

As to its appearing under the head of Quarterly Summary, we must say, “wrong Doctor,” it appeared under the head of “Selected Articles,” and is marked “Article XV.,” in April No. Journal.

As to “fully acknowledging its authorship,” we answer, that we have examined the article from beginning to end, also the table of contents, and *can find nothing of it in either*. The nearest approach to it is the initials, “J. D. W.,” at the end of the article. Will the Doctor show us where “Dr. White’s name” is given “in full,” in connection with the article in question?

J. R. M’C.

Items from Correspondents.—In a letter received from Germany, the writer, in speaking of mechanical dentistry, says, “I have never seen an atmospheric pressure plate made in Germany, yet almost every person you meet wears false teeth; and I have often noticed them bobbing up and down at every word the poor victim uttered.”

Another, who has passed among some of the dentists in England, writes, “I found some of them very one-sided and close in their views and very much disposed to underrate American dentistry, saying that they never were able to learn any thing from their (American) writings, etc.,” on which our correspondent very appropriately remarks, “they never seemed to think that the fault might be with themselves—that they did not understand.”

J. R. M’C.

See Cover for various advertisements, among which we wish particularly noticed, as a matter worthy attention to those desiring to change their location, the advertisement of “A Practice for Sale in Illinois.” We are assured the location is a good one, and a practice may be expected at once.

J. R. M’C.

Physician's Visiting List.—We have received from the publishers, Messrs. Lindsay & Blakiston, a copy of the above work. It is neat, convenient, and admirably arranged for the purpose designed. With some modifications, which might be suggested, we think it would be found a very useful engagement book for dentists. J. R. M'C.

We regret to announce the death of Dr. B. J. LAUGHLIN, of this city, a graduate of the Philadelphia College of Dental Surgery, and a young man of much promise in the profession. J. R. M'C.

THE LANGUAGE OF DISTRESS.

BY A. HILL, D. D. S.

Nature has a language suited to her varied wants and circumstances; and in every case, peculiar and distinctive, "known and read of all men," and, we might add, of every human being, whether young or old.

Joy, bounding and boisterous, gives forth its appropriate notes in a language universally recognized and understood. Bold and impetuous, it stirs the blood, in the most vigorous manner, and is not easily resisted or suppressed.

Sorrow, the opposite of joy, hath an expression as different as its nature. So, also, of *love—hate*—and all the intermediate shades of feeling, and experience.

And these are all *true*—all *significant*—seldom counterfeited, or perverted.

What is the philosophy of this language?

It was a beautiful remark, written down some years ago by Professor Thomas E. Bond, of Baltimore, that "*sensibility*, like a faithful sentinel, was always standing on the outpost of danger." (We quote from memory.)

The thought was fine, and we cherished the recollection of it. It is important, and we reproduce it, as pertinent to the subject under consideration; *nature is always true*, and when she speaks, she *must* be heard, and means to be understood.

In her more *startling* cries, she never makes a mistake.

Listen to her, as she gives note of some sudden calamity. How thrilling her language! Is it the voice of pain—or fear—or anxiety? How do men sound the alarm of *fire! fire!! fire!!!* at the hour of midnight? How terrible is the cry of *murder*? How awful, how appalling, the screech of despair! Here, Nature's voice is *one*. All are eloquent, all are understood—she seizes the reins here, and gradu-

ates her own scale, and if she sweeps the strings, the whole diapason is heard.

We say, Nature makes no mistake, she does not confound her own language. The screech of despair, and the notes of pleasure, are never to be taken, the one for the other. They are never to be misunderstood, or misrepresented. Every human being understands them, and immediately responds to their influence.

Here, then, is the truth, here stands a great *fact*, and what is its philosophy?

Pain is always the language of distress and danger; and the danger must always be in proportion to the intensity of pain. For, if it be true that "*sensibility* is the sentinel on the outpost of danger," whose business it is to sound an alarm as danger approaches, we may consistently presume, that the sharpness and severity of the notes of alarm will be proportionate to the danger, or peril which threatens. For no human being, left to the pure instincts of his own nature, could, under the influence of a lively apprehension of his immediate danger, change the character, or even disguise the meaning of his expressions. A simple *groan* is always significant. Much more, a *scream*—*screech*—or *yell*. The sharp, quick, and emphatic notes which break from the lips in the moment of distress, are all calculated, and understood—they are graduated and adjusted by a provident and intelligent nature, to the occasion that shall call them forth.

And we say they have a meaning, and a profound philosophy, which underlies the whole. What is that meaning—that philosophy?

We shall attempt briefly to foreshadow it in the short space which remains for this article.

When nature utters her voice, other things being equal, the alarm is proportioned to the danger. The severest pain indicates the severest necessity for immediate and prompt attention. It is nature's own call for assistance. Otherwise nature is found to raise a false alarm, and the law of pain is misunderstood.

Fire being very dangerous, nature cries against its direct contact, with a voice of terrible agony. Here she is true, and so of a thousand other things.

Odontalgia, or tooth-ache, is a terrible pain, and under certain circumstances, perhaps it is the most terrible pain which a human being can endure.

And what is the conclusion, in reference to it? Why are the teeth, those hard, dense structures, armed with such exquisite sensibility, and allowed a voice, of such terrible and startling agony?

The conclusion seems irresistible. They are vastly important—the danger is appalling—the demand for assistance immediate and imperative—and whosoever will not heed the call, must suffer the consequence.

And herein is *sin*, here is an insult and abuse of one of the most beneficent provisions of nature. Here is the most perverse resistance of God's own voice, and this is *sin*.

The prevalent notion, that *pride* alone prompts to the care of the teeth, and to those needful and sometimes necessarily painful dental operations, to which so many submit, has been too long suffered to go unrebuked.

Duty, stern and inexorable, summoned by nature's loudest and sharpest call, requires the promptest and best attention to the dental organs.

Comparatively few individuals are capable of appreciating the important and extensive relationship between the teeth and that wonderful economy with which they stand connected. They are related to a series of operations, in such a way that any material derangement of them cannot fail to effect the whole. Indeed, a change here, works a corresponding change throughout the system, just as the displacement of a figure in mathematics must necessarily give a different result. With respect to the process of digestion, they are the first of the series of operations concerned in it. And what is wrong on the start of any process, must be corrected precisely at that point, or not at all.

Now, the law is clear, that at the point of departure, sensibility gives the alarm—pain is the voice of warning, and if promptly heeded, it is a seasonable and timely admonition, and may be considered salutary. But neglect it, and the cry rings through the whole organization in a voice of terrible agony, and finds an echo in every organ of the series. But if the matter of preserving the teeth is to be regarded as of little or no consequence, how is it that nature has put such loud and extravagant notes to such a key?—*N. Y. Dental Recorder*.

From the Charleston Medical Journal and Review.

M. CL. BERNARD, ON THE PHYSIOLOGY OF ABSORPTION AND OF RESPIRATION. Being a Sequel to the Report of his Lectures, prepared by the Junior Editor, Dr. F. PEYRE PORCHER, and published in the July number of this Journal. By WALTER F. ATLEE, M. D., of Pennsylvania.

PARIS, September 29th, 1853.

The physical or chemical change produced in the blood by respiration has been already considered. Independently of that, the animal

heat, the secretions, and nervous irritability, are all kept up by respiration.

Between natural and artificial respiration, there is an immense difference. The chemical changes produced in the blood are the same. Le Gallois experimented, and concluded that life could be maintained by the aid of artificial respiration. An animal was placed under a glass, with a tube, in order to blow into the trachea, and the air contained was found to be changed as by natural respiration. But Brodie remarked that the animal became cold, and colder more rapidly, than if respiration had not been kept up. He concluded, from this, that it was not the respiration that maintained animal heat, but that, on the contrary, respiration cooled. And this is a fact. Magendie and Bernard have always found the blood in the left ventricle colder than in the right, and this is natural, for the air being colder than the animal, the blood must be cooled. This is the cause of the more rapid loss of temperature in the insufflated animal.

Moreover, the secretions are not kept up, and the irritability of the muscles, which we have shown to be altogether independent of the nerves, diminishes and disappears. And all this while the blood is becoming red, giving off carbonic acid and absorbing oxygen. The difference is owing to the nervous system. This had already been remarked by Brodie. And it is not because the brain is taken away, for, as is readily seen, there is still a connection with it by means of the pneumogastrics, but because the spinal marrow is removed. In an organ that functions, there are always two things needed: excitation from external objects, and, also, an excitation received from the nerves. This nervous excitation wanting, heat, irritability, &c., will also be wanting—every time that the medulla oblongata is cut at the level of the pneumogastrics, life is at once arrested. Fleurens called this spot, limited below by the origin of the pneumogastrics, and above by that of the auditory nerves, the *nœud vital*. If you cut above this, respiratory efforts are made with the mouth. If, in place of decapitating the animal, they had destroyed life in any other way, Brodie and Fleurens would have found the functions spoken of, to continue. When you kill an animal by poison and at once insufflate, things are found to be altogether different; or if you produce asphyxia, provided the heart still beats, you can reproduce the phenomena of life, if the medulla oblongata be intact. M. Bernard performed the experiment upon a dog—destroying life by poison—and then practicing insufflation before the movements of the heart had ceased. The secretions of uterine, gastric juice, &c., were accomplished. The cornea was sensi-

tive, and the calorification did not diminish. Again, by the augmentation or the diminution of the insufflation, there was a corresponding change in the secretions. Among the rest, the secretion of sugar, by the liver, was very much augmented, and the animal became diabetic, sugar making its appearance in the urine.

The first condition of respiration is the charging of blood with oxygen. But this is not all; this excitation, entirely physiological, brought upon the lungs by the air, is carried, by the pneumogastric nerves, to the medulla oblongata. This organ transmits the impression to the spinal marrow. This excitation warns the organs, that so much oxygen is in the blood, and the two, the nervous excitation and the arterial blood, make the organs accomplish their functions. Respiration prepares the blood, and the nervous system renders the organs *apt* to utilize such blood. When the pneumogastrics are cut, phenomena occur, in the explanation of which M. Bernard thinks the effect of the lungs on the nervous system has been too much neglected. He says that none of the theories for their explanation mention it. So soon as these nerves are cut, the respiration becomes shorter. The cause of death has been placed by some in the stomach, by others in the heart. In the lungs, the change from venous to arterial blood is well accomplished. It is said that the change is slow, and that not enough air is introduced, But the contrary is true, and at such times more air is absorbed than at others. Their section, then, does not bring trouble into the mechanical respiration; but it is always mortal. A dog dies in three days—you find his lungs engorged with blood; but does this always exist? no, and hence we cannot give it as the cause of death. Besides, birds always die from this section, and you never find this engorgement in them. In many other animals it is wanting. Some say the animal dies of hunger; but a dog can live twenty-one days without eating, and he dies in three, as has just been said, after the section of these nerves. How then is death produced in these cases? We sometimes find a pulmonary lesion, and sometimes none; when there is, it is never instantaneous. It comes progressively, and because there is a want of harmony between the efforts of the animal to respire and the resistance of the tissue. This harmony naturally exists in the lungs. You know that sometimes in the muscles there is that want, and they yield. When we exert our muscles, we feel when we can do no more. The nerves have been cut in horses, and then, when urged to exert themselves, they have done so far more than before, as to break their bones. Charles Bell made this experiment. The same thing takes place in the lungs—we make an inspiratory effort and we

feel when we should do no more. When the pneumogastric nerves are cut, this feeling can no longer take place, and the effort is greater. M. Bernard, in experimenting upon a rabbit, found that when one nerve was cut, twenty cubic centimetres more of air were inspired, and that, when both were cut, thirty-two cubic centimetres. This forced dilatation causes, that the lungs contain more air, for they are obliged to follow the ribs and diaphragm. The lungs have a dilatability, calculated upon a normal dilatation—a tear of the lungs results, and this tear takes place almost at once; almost *immediately* after the section of the nerves, you see an emphysema. This is the first phenomenon, to which is soon added an effusion of blood. It is almost invariably in the upper lobes that this is first seen. Then the lungs become, as it were, marbled by effusions of blood—the circulation is hindered. Of this blood, the fibrous part coagulates, and the serous fills the vesicles. In these cases the animal dies by a true asphyxia. The more young the animal, the more certainly is this the mode of death, for the tissue of their lungs is more friable, more easily broken.

However, sometimes we find no such lesions, and how are we to explain the result? At the commencement, the phenomena are the same; the effort of inspiration is greater, and more blood enters. When the animal is old, the lung is more resistant and does not break; such animals live longer, but they never live longer than three days. The rabbits, upon which M. Bernard experimented, did not live twenty-four hours. When these lesions do not take place in the lungs, asphyxia does not; the blood is arterial to the last moment; the respiration becomes slower and slower, until the animal dies. How then does death happen? We must seek its cause elsewhere than in the lungs; we have, evidently, introduction of oxygen, and giving out of carbonic acid, and, until the last moment, there is a paralysis of all the other organs, and we must see how this happens. The nervous system is the bond of union of all the organs—the liver, the kidneys, the other organs of secretions—and then the muscles. Put some vinegar upon the tongue, and the sensation, carried by the nerve, is reflected upon the gland, and it secretes—cut the lingual nerve and this does not occur, the gland does not secrete—it is paralyzed, because it does not receive the excitation. Just as the sapid body makes an impression upon the tongue, so does the air make an impression upon the lungs. The pneumogastric nerves carry this impression to the medulla oblongata, and thence, by the spinal cord, it is conveyed to the liver. But when these nerves are cut, the liver is paralyzed—the metamorphosis of the blood, and the production of sugar, are no longer

accomplished. Take the liver of such an animal and you never find any sugar—the circulation in the liver is not arrested, but no sugar is produced; it has ceased to function—the liver is paralyzed. A principle then is wanting in the blood. After the liver has ceased to act, the urinary secretion is arrested, for there is, between the liver and the kidneys, the same communication as between the lungs and the liver, by means of the spinal cord; a modification, very considerable, of the blood, must result, and life of course must be very imperfectly maintained. The muscles no longer secrete, so to speak, their irritability. You know very well that the muscular contractibility exhausts itself, and that, when left at rest, it is again reproduced by the blood. But when the blood is altered, it cannot be. The animal becomes cold—the heart becomes paralyzed—its irritability exhausts itself; its contractions become very rare, and no longer push on the blood already much altered. At last the heart stops. You see then that there is a kind of chain, and that all hangs upon the respiratory act. When you cut the pneumogastric nerves, you cut the bond uniting the muscular system with the organic functions. If you galvanize the cut nerves, you can awaken the functions of the liver.

Connection between respiration and calorification. In warm and cold-blooded animals, increased temperature and frequent respiration, and diminished temperature and slow respiration, accompany each other. The temperature of animals is not so fixed as had been supposed. It is higher in the day than in the night, and at some periods of the day than at others. These variations do not go beyond one degree, and they coincide with variations in the respiration. It was at first thought that this heat was produced in the lungs. There is more heat in the blood of the arteries than of the veins, as, for example, in the carotid of the dog it measured 39° or $38\frac{1}{2}^{\circ}$, while in the jugular vein but 37° or 36° . This seemed to prove that the heat was obtained in the lungs. The ancients, Aristotle, &c., thought that the air was to cool the blood, and that an over-heated animal breathed more frequently in order to cool itself. In the right and left ventricles we have blood that is just going to enter the lungs, and that has just come out of them. It is exceedingly difficult to experiment here. Hunter, Davy, and others, after their experiments, thought that the left blood was warmer than the other; one of them even pretended to find a difference between the left auricle and the ventricle, the blood having already cooled. Other experimenters, Magendie, Liebig, and Bernard himself, found the contrary. There is a difference in the result if the animal be alive or dead. Kill the animal as quickly as is possible; it

requires time to open largely the thorax, and then the temperature of the left ventricle is the higher. Liebig, however, has shown this to be owing to a difference in their rate of cooling, the walls of the right being much more than those of the left. Put a thermometer in each ventricle, and put then the organ in water at 40° —the thermometer will stand at 40° also. Take it out, and leave it in a temperature of 16° , and in a short time there will be a difference of 6° in the two ventricles. This difference, then, is not owing to a difference in the temperature of the blood. This experiment on living animals is very difficult; the best way is to kill and try very quickly. In his experiments, M. Bernard has always found the right blood warmer than the left; the difference is very slight, and for its detection very delicate instruments are requisite. In a dog, in digestion, the blood in the right ventricle was one-tenth of a degree warmer than in the left. We are authorized to conclude this, and it is of the greatest importance; the theory that heat is produced in the lungs must be completely abandoned.

The cause of heat must not be sought for only in the physical phenomena of the body, it must be looked for also in the nervous system. Heat is not produced in the lungs, but in the other organs under the influence of the excitation communicated to them by respiration. The phenomena following the section of the pneumogastric nerves, have just been recounted. The modifications in the blood which take place in the liver, &c., under the influence of the excitation conveyed by these nerves from the lungs, is the cause of animal heat. The point of the body, where the blood from the liver unites with that from the kidneys and from the spleen, is the hottest. This is why the right ventricle is the hotter, for it receives the blood from the intestinal vena cava. The blood of the superior vena cava is less hot than that of the inferior; in inspiration, it is principally the former that enters the lungs; in expiration the latter. The lungs then produce heat indirectly—first from the liver, after that from the kidneys, &c. All the organs, even the muscles, concur in this production of heat; it cannot be localized in any one. The skin produces heat, and yet when you examine a vein you find it cooler than the artery—but it would be far more so, did not the skin act as it does. Varnish an animal, preventing thus the skin from performing its functions, and it becomes very cold. The arterial blood has its temperature increased in all the organs when they perform their functions, but the necessary loss of heat may be greater than this gain. An organ may produce much heat, but if the causes of the loss of this heat be greater, the temperature of the blood in the vein, of course, will be found diminished.

The influence of the nerves in the production of heat is so true, that you can by it, at will, produce an elevation or depression of temperature locally. It is perfectly shown by the experiment made by M. Bernard some years ago. He cut the cord of the sympathetic nerve, connecting its second and third cervical ganglia, and there was a wondrous difference in the temperature of the ears of the animal—a difference of two or three degrees. Here a change in the respiration, even should it occur, could not explain the phenomenon of the localization of the heat on one side of the face. If, in place of cutting the great sympathetic, the fifth pair be cut, just the contrary is seen—the side becoming colder in place of warmer, and the other side becomes warmer. This is because the one side is no longer under the influence of the excitation produced in the lungs during respiration; all of it, on the other hand, is concentrated in the portion of the nerve that has remained intact. After the section of the nerves going to an organ or to a limb, that organ or that limb is paralyzed, and the blood that issues from it is colder than before; the organ or limb itself is colder. If in place of cutting the nerves, they be excited, (by galvanism,) the temperature ought to augment, and this is really the case. In a paralyzed limb, the hand had a temperature of $17^{\circ} 3$, the arm of $21^{\circ} 3$, the armpit of $26^{\circ} 1$. After having been galvanized, the temperatures were, respectively— 20° , $22^{\circ} 6$, and $27^{\circ} 1$. In the normal limb the temperature was $26^{\circ} 6$. Calorification, or animal heat, does not then take place during the arterialization of the blood, but in fact during the transformation of the arterial blood into venous. It is not during the absorption of oxygen, but during the transformation, the assimilation of oxygen in the organs. Animals become cold at the very time that they absorb most oxygen—that is to say while fasting—a proof of what has just been advanced. It is the contrary during digestion. In a dog fasting, the blood of the jugular vein was at $20^{\circ} 3$; while digesting, at $23^{\circ} 1$. In the same animal, while fasting, of 100 parts of oxygen, 74.5 were given off in carbonic acid, and 25.5 were absorbed; while digesting, 94.3 were given off and but 5.7 absorbed. The oxygen that remains in the economy is fixed in the tissues of the organs, and when these organs act, this oxygen is disengaged in the form of carbonic acid. The animal heat is in relation with the quantity of carbonic acid thrown off, and not with the quantity of oxygen absorbed.

Continuing his examination of the phenomena of absorption, M. Bernard next commenced the absorption of aqueous bodies, beginning with water. The body can no more do without water than without

oxygen. Every time a portion of the body, a muscle, a tendon, &c., is deprived of its water, it loses its properties. The organisms of some of the lowest orders of animals can be dried, and when again moistened their life recommences; water is then fundamental both for the constitution and for the play of the organs. The following table shows the quantity of water in each of the principal parts of the body:

Blood, - - -	0.81	Vitreous body, - -	0.98	Skin, - - -	0.57
Serum, - - -	0.90	Aqueous humor, -	0.98	Optic nerve, -	0.70
Lymph, - - -	0.95	Nasal mucus, -	0.93	Crystalline, -	0.58
Gastric juice, -	0.98	Sperm, - - -	0.90	Muscular flesh, -	0.77
Saliva, - - -	0.99	Urine, - - -	0.97	Bone, - - -	0.46
Pancreatic juice, -	0.91	Milk, - - -	0.93	Tendon, - - -	0.51
Bile, - - -	0.90	Colostrum, - -	0.92 (?)	Cartilage, - -	0.70
Ceph. rachidian liquid, 0.98		Brain, - - -	0.80	Fibrine, - - -	0.81
Peritoneal liquid, }		Liver, - - -	0.68	Albumen, - - -	0.87
case of ascites, }	0.95	Retina, - - -	0.92		

We must inquire then how this water is preserved and renewed in so constant a manner; it is true that there are variations, but excessively slight for quantities so enormous. How is it that the tissues preserve water and do not yield it by exhalation? It must be considered as combined with the organic parts of the tissues. When you put them in water they do not take up any more; the water exists in the tissues, and is constantly renewed from the current without. If an animal be deprived of water, or if too much be given, no exaggeration or deprivation is found in the tissues. This property of the tissues, of saturating themselves with water, explains this fact, and if too much be taken into the economy the more is expelled. Water can be thrown artificially into the veins or arteries; if it be forced in, the animal soon dies, and in convulsions. In these cases there is an excess of water which cannot be eliminated; the blood loses at once its properties and does not circulate. The kidneys that ought to work harder, are infiltrated and no longer act. The intestines, the spleen, and then the other organs, become infiltrated, and the animal dies from a general dropsy. A tube of glass was inserted into the artery of the kidney of a rat; when water was poured in, the circulation was soon arrested. The serum of an ox being used, it circulated some hours, and there was no infiltration. This was done after death, and the same occurs during life.

Many cases have been cited of men who rendered more water than they drank. Ordinarily it is the contrary, for some is lost in transpiration, &c. This water must have its source, must be formed somewhere, and to account for it three hypotheses have been given. 1st, that there is an exaggerated absorption of the vapor of water; 2d, that it comes from the tissues; 3d, that it is formed at the expense of

the oxygen and hydrogen taken into the system. In regard to the first, on weighing a diabetic patient before and after a bath, the difference was never more than two ounces, and this must be accounted for by the thickening of the skin. The second hypothesis cannot be true, for the man in such a case must get thinner, and this is not always seen. And, first, is the fact well observed that persons render more than they take? M. ——— made some experiments, and he always found that when more water was rendered than was taken in, that his patients were not of good faith. In one case, in which he could rely, when he had given 186 ounces of water in solids and liquids, 132 were passed in the urine. Another day, the quantities were 162 and 147; and, on others, 171 and 145, 166 and 138, and 195 and 147. M. Bernard thinks that in the observations given, of more water passed than taken in, there is such a cause of error as a celebrated physician found in his, namely, a neighboring fountain. The question, of great interest, is not yet settled.

Numerous experiments have been made for the purpose of determining the quantity of water necessary to maintain life. Sanctorious passed the half of his life in the scales, examining what he took in and what he gave out. These experiments have been made in two ways—by observing what the body lost in solids and liquids, when none were given from the exterior; and again, by supplying the usual quantity of both. Dalton submitted himself to the latter, during fourteen days. Every day he took 91 oz. in solids and liquids. The urine was $48\frac{1}{2}$ oz., his excrements only 5 oz. Thus he must have lost $37\frac{1}{2}$ oz. by pulmonary and cutaneous transpiration, for he weighed the same at the expiration of the experiment. The quantity of carbon he lost from the lungs can be calculated at $10\frac{1}{2}$ oz., and the water at $20\frac{1}{2}$ oz.; the quantity of the former from the skin at $\frac{1}{4}$ oz. and of the latter at $6\frac{1}{2}$ oz. M. Chaussat, of Geneva, has made numerous experiments by the first method: namely, when no aliment is given. He observed both the diurnal and the integral loss. The diurnal loss of the first day was far greater than that of the others; on all the others it was almost the same, with the exception of the last, when it was much greater, almost equaling that of the first. He found that an adult animal, entirely deprived of food dies when it has lost the four-tenths of its weight; the only exception is when it is very fat, and then it may lose the five-tenths. Young animals die when but two-tenths are lost. Birds die very quickly; dogs more slowly; but the rule is the same for all—they die when the four-tenths are lost. Now, what become of these animals when you supply them with water? They live longer, if you allow

them to drink at their own discretion ; but, if you force them to drink, they die much quicker—they become infiltrated, their blood is decomposed. In the animals thus submitted to abstinence, the blood remains the same—its principles in the same proportion, at all the periods. Magendie has shown this. The quantity is much less considerable, for they use their blood. It is only in the last days that, the blood being in too small a quantity, the organs cannot act, the liver no longer makes sugar, &c. ; and thus the blood is no longer normal. The animal is then taken with diarrhœa, and it is by this diarrhœa that the animal loses so much in weight in the last days. His blood has acquired venomous properties, so to speak ; and, injected into another animal, he dies in a day or two, as if a poison had been introduced into his system. Experiments have been made by Mr. Smith, with the same results. He observed, above all, that the happy influence of water in prolonging life is much more marked in cold-blooded animals than in warm. A frog lived twice as long—mammifers only some days longer. He has also calculated the quantity of water lost, proportionately to the weight of the animal. In the dog, each thousand grains of the animal, in twenty-four hours, loses, by the kidneys and intestinal secretions, 22.89 grains. By the lungs, the same quantity of the animal loses 16.04. Every thousand grains of the animal loses, then during abstinence, every twenty-four hours, 38.43 grains of water.

In hybernating animals, a curious phenomenon has been observed—they lose in weight, but not regularly, as in forced abstinence, and sometimes they are found to have increased in weight. Four marmots were weighed before and after their hybernation, which commenced the 8th of January and finished the 26th of February. The first weighed 2,226 gr. and 2,078—his loss, therefore, was 148 grains. The second lost 139, another 58, and the fourth 57. The last two were much smaller than the others. There are oscillations in which an increase of weight can take place. In one of these animals, in two days, there was an increase of two grains. How is this ? They take no food. It comes from the oxygen taken in by the lungs.

The absorption of gases is much more simple than that of liquids. In gases the cause had to be sought for in the properties of the blood, the membrane having no direct influence upon it ; in liquids we must consider also the properties of the membrane, of the epithelium, which plays no part in the absorption of gaseous bodies. M. Bernard demonstrated this by six cœca of chickens, filled with blood from different parts of the body, bile, &c. A tube was put in each, and they were all placed in distilled water ; the height of the ascension in the tubes

showed the amount that entered. The one containing bile was soon very high. The membrane is very important, and is always constituted for the liquids to be brought in contact with it. This was shown by the following experiment upon a frog. He was placed in salt water and soon died; a true endosmose occurred, salt entering and the blood going out. The blood did not coagulate when drawn from the body, and was very salty to the taste. The animal died from an endosmose, that would not have occurred had his skin been organized for such a medium. There are other animals who cannot live when a morsel of sugar is dropped into the liquid, as infusoria. An analagous phenomenon is produced, owing to the thinness of their skin. In the absorption of liquids, then, it cannot be indifferent in what particular part of the body the substance be introduced.

The intestinal tube is intended to absorb the aliments. Nutritive baths and nutritive lavements are spoken of, but do they really exist? When an individual has taken a nutritive bath, his weight has increased; but is not the water in the skin the cause? Admitting that the nutritive matters do penetrate, do they nourish? When aliments, sugar, albumen, &c., are introduced under the skin of an animal, they are soon eliminated by the urine; thrown off as foreign bodies. If, on the contrary, they are injected into the stomach, they do not appear. In order that a substance fulfil its part in the organism, it is not sufficient that it enter, but that it enter in a particular way. M. Bernard performed the following experiments upon two rabbits, choosing those animals because the cellular tissue of the dog, the animal he generally makes use of, is much more dense, and in consequence the experiment would be much more difficult. Into the cellular tissue of one, by means of a syringe, he threw the half of a solution of sugar; the other half was injected into the stomach of the other. As it might be objected that the difference in the result was owing to the fact that the stomach absorbs more slowly, he introduced into each solution some yellow cyanuret of potassium. In a short time, in the urine of the first rabbit both the substances appeared, while in the second the cyanuret of potassium was alone thrown off.

The digestion of aliments consists in their solution; but that does not suffice. In order that they may be definitely assimilated, they must pass through the liver; particularly albumen and sugar. If, in place of injecting the solution under the skin of the rabbit, it had been thrown into the vena portæ, the result would have been the same as when injected into the stomach. Nutritive baths are, then, a pure illusion; but it is not the same with nutritive injections, for the veins of the large intestines pass through the liver.

(To be continued.)

CATARACT.

[Continued from page 187.]

Such are the phenomena visible in the dilated pupil of a healthy eye, examined with a candle in a darkened room. How can we avail ourselves of them in diagnosis? Bearing in mind the position at which the deepest image is formed—the posterior capsule,—and the ordinary seat of cataract—the lens and anterior capsule,—you will at once perceive that this disease, as soon as produced, of necessity obscures that image, and at an early period obliterates it altogether. As cataract advances, the deeper erect image is also affected, and becomes irregular, misshapen, broken up, and at length dispersed into an indefinite and pallid blaze. But glaucoma, instead of obscuring the normal deep images of a candle, exaggerates them, and makes them more conspicuous; so that by duly estimating these phenomena, diagnosis becomes certain. For if, in any given case of suspected cataract, the inverted image is more distinct than in the healthy eye, the conjecture must be erroneous, as a cataract of necessity prevents such distinct image being seen. So, *vice versâ*, if in a case at first sight regarded as one of amaurosis with glaucoma, on examination, the deepest image is found obliterated, there is, in all probability, a cataract, whether there be amaurosis too or not. Catoptrical examination, then, may be deemed decisive of the non-existence of cataract, whenever the deepest image of the candle is normally distinct, and strongly indicative of this disease when that image is, on the contrary, impaired in distinctness or obliterated.

This complaint may exist for years without giving rise to any further mischief; it does not excite diseased action in the tunics of the eye external or internal, engender opacity of the transparent media not directly concerned in the disorder, nor implicate the nervous expansion on which vision more immediately depends. Hence the removal of the opaque body may effect restoration of sight, after the faculty has been suspended for years; and hence also the existence of cataract *per se* awakens no apprehension for the integrity of parts not necessarily involved. Still the period of life most subject to this disease—that of approaching or established senility—is also the most liable to various other morbid affections: as indolent ulceration, sluggishness in the repair of injuries, arthritic inflammation, &c. Of course these considerations influence our prognosis in cases occurring, as the majority do, in elderly persons, for they remind us of the greater uncertainty which consequently attends the result of operations in such subjects.

The mere fact of a patient with cataract being old, need not cause

an unfavorable prognosis, but the circumstances must induce careful investigation of the case, and prudent calculation of the chances of ultimate success. In congenital cataract, if not complicated with amaurosis, a favorable prognosis may very generally be given, as also in traumatic cases, unless there be evidence of further injury. Even in these cases, however, and still more with elderly persons, it is essential to ascertain, as far as practicable, the condition of the retina, and to be satisfied of the generally healthy condition of the globe, and if this be doubtful, to modify the prognosis accordingly.

It is well to examine *seriatim* the different textures; to learn that the sclerotic is not attenuated or discolored; that there is no indication of choroidal or retinal affection (or history of the same, in *muscæ*, luminous spectra, pain, or uneasiness of the globe, &c.); that the humors are secreted in due quantity, as evinced by the globe being neither flaccid nor morbidly hard, but preserving its healthy tension and elasticity. Finally, we should be satisfied that the iris is responsive to its wonted stimulus, contracting actively on exposure, and free from adhesions demonstrative of prior inflammation. It is also necessary to investigate the condition of the opposite eye. If in all these respects the result of examination is satisfactory, a favorable prognosis is warranted, so far, at least, as the state of the organ itself is concerned. It then remains to ascertain that the state of general health is good, or admits of being brought up to a certain standard, for the result of operation may be materially affected by constitutional derangement. If in this point also the desired results are obtained, the case is most promising. When every circumstance so favors the prospect of ultimate success, the temptation to proceed at once to operation is considerable; but the surgeon is still only justified in recommending it under certain conditions. If the patient be elderly, and sight tolerably good with one eye, it is unnecessary to operate, as life might reach its close in comfort before the complete formation of cataract in the second eye. Upon this point, however, the decision may be safely left to the patient, after he has been informed that his chance of recovery is not materially diminished by the cataract being suffered to remain until the second eye becomes affected, and also that affection of the second eye is not more likely to ensue in consequence. The period of the disease at which operation should be resorted to, may be settled in few words. Upon each of the operations for cataract (as upon every other surgical operation) a certain amount of risk attends. Inflammation may ensue unexpectedly and uncontrollably, and the eye be irretrievably lost. It is not in the power of the most skillful, the

most prudent, and the most successful surgeon, in any given case, absolutely to insure the patient against such a result. Hence, however favorable the circumstances of a case, it is scarcely justifiable, and decidedly unwise, to recommend an operation until the complaint precludes the patient from his ordinary occupations. The use of a belladonna or atropine collyrium, by effecting dilation of the pupil, may supersede the necessity of operation for a length of time; so I have lately, in two instances, found very concave glasses, which, when the cataract is mainly central, by directing the rays of light to the transparent periphery of the lens, assist vision very materially. Only, therefore, at the express desire of the patient, should we operate previously to that stage in which all useful vision is extinguished, and the enjoyments of life dependent on it are abrogated. If this precaution were disregarded, and the operation should not proceed auspiciously, he might lose even that imperfect vision which up to the period of its performance he had retained, and not without reason bitterly condemn the rashness which had consigned him prematurely *in carcerem tenebrarum*. In congenital cases the operation may be had recourse to in six weeks or two months after birth. It is desirable to perform it early for two reasons; first, to allow time for repetition, if necessary, before the approach of teething; and secondly, to prevent a continued oscillation of the globes, which is apt to ensue if light be long shut out from the retina, and is both embarrassing to the surgeon and prejudicial to his success.—*London Lancet*.

THE PROCESS OF REPAIR IN TEETH.

The recent number of *Guy's Hospital Reports*, contains a very interesting communication, by Dr. S. J. A. Salter, on the laws which regulate the formation of the "Dentine of Repair," one of the forms of what has been called secondary dentition, or that after formation by which the pulp cavity of the tooth is diminished or obliterated, after the tooth has attained a mature and adult condition.

There are three forms of secondary dentine: *Osteodentine*, in which the new tissue is arranged in systems resembling the Haversian systems of bones around isolated blood vessels; the dentinal tubes radiating from each centre. It always occurs in states of irritation or inflammation of the pulp. *Dentine excrescences* are little nodules of secondary dentine, occasionally found attached to the interior of the pulp cavity or otherwise healthy teeth. *Dentine of repair* is the special subject of the paper. This deposit is thrown out within the pulp cavity, *opposite*

to that part of the external surface of the tooth where a fracture or wearing of the original dentine has taken place, thus thickening the body of the tooth opposite the injured part, so that the teeth which are worn down even level with the gum still present no cavity.

This process corresponds with the most beautiful exactness to the external lesion; as long as the enamel only is injured, no dentine of repair is deposited; but as soon as any of the dentine tubes are broken off or worn away on the surface of the tooth, so soon is there thrown out at their opposite extremities towards the pulp, a deposit, limited with the utmost exactness to the injured tubes; not mathematically opposite, therefore, to the injured part, but *physiologically* opposite, according to the wavy course of the tubes. The dentine of repair is clear and translucent, and the part of the original dentine involved in the process becomes also more transparent than usual, in consequence of its tubules being filled up with solid matter.—*Peninsular Journal of Medicine*.

Dentistry is now a science, but there are traveling operators “on the frontiers,” who set the teeth on edge without any scientific knowledge whatever. A certain notable of this questionable kind, who was known among the “masses” as a “tooth carpenter,” was fortunate in receiving an order from an old lady for the manufacture and placing of an “entire set.” He went to work with commendable zeal, and in due time—much to the momentary satisfaction of his patient—lightened up her smile with the “counterfeit presentment” of pearly rows.

In a few days, however, matters changed, for one tooth after another dropped from their golden encasement, and were eschewed from the mouth with almost the plentifulness of cherry stones. The Dentist was sent for, and charged with unprofessional skill; he stoutly denied any want of merit in his work, and ascribed the mishap to some constitutional peculiarity of his patient. After much speculation, he asked his victim if she had not in the course of her long life, taken a great deal of calomel? Upon being answered in the affirmative, he gravely told her that this calomel had so entirely entered into her system, as to make it impossible even for false teeth to stay in her head; and with an expression of injured innocence and real professional sagacity, he bowed himself out of the presence of his astonished patron.—*Harper's Monthly*.

“*Fifteenth Annual Announcement* of the Baltimore College of Dental Surgery,” has just been received. We refer to the advertisement of the next course, on the cover.

THE DENTAL NEWS LETTER.

VOL. VIII.

PHILADELPHIA, JANUARY, 1855.

No. 2.

For the Dental News Letter.

SPONGE GOLD.

MESSRS. EDITORS :—Every day is adding new facts in support of the truth of the old adage, “Many men of many minds.” Within the last quarter of a century many and various have been the inventions presented to the dental profession ; but few of them have originated wider differences of opinion than sponge or crystalized gold. With a view to reconcile, if possible, at least some of these conflicting views, I am induced briefly to make some statements in connection with my experience in its use.

Since carefully investigating the wide difference of opinion arising from the introduction of this new preparation of gold for filling teeth, expressed both in public and in private, which have come within my observation, I can but come to the conclusion that they mostly arise (if not from using an inferior article) either from a lack of skill or perseverance. Many, doubtless, become too easily discouraged at the appearance of obstacles, which, at first, may seem too great to surmount, yet, with patience, perseverance and skill, they may be overcome to that extent which will ensure to crystallized gold eminence and excellence far above all and every other preparation for filling teeth.

From my own experience, of something more than a year, in the use of sponge gold, having used in the time several ounces of it, I feel fully prepared at least to state some things that may not be expected, and cannot be done with it.

First.—It cannot be successfully used, in following the directions for its use as given by, at least, some of its manufacturers ; one particle of it cannot be made to adhere permanently to another that has been thoroughly consolidated, not even by roughening its surface, as has been claimed ; neither is it a fact that a certain number of cavities can be filled in less time, with it, than with foil, or that it requires less skill and experience to make a good plug.

I shall next make, and I feel confidence in the assertion, that a better plug in every important respect, in nearly all cases, can be made with it than with foil. To this end the following rules must be strictly observed :

First.—The cavity must be thoroughly cleansed, and so formed as not in the least to depend upon any *adhesion* of the gold to the bone for retention.

Secondly.—The gold must be packed perfectly dry.

Thirdly.—It must be in such a manner placed in the cavity, as not to depend in the least upon the finishing or surface pressure for packing the walls of the cavity ; it is undoubtedly at this point where most have failed in its use, as it will not expand under pressure ; a very valuable and indispensable property for very many cavities having thin or brittle walls. To the end of securing a perfect filling at every point, in connection with the walls of the cavity, it becomes necessary first to thoroughly press, with a rough-sided instrument, the gold against the walls of the cavity, adding layer after layer with side pressure, until the cavity is filled, leaving the surface with its spongy or crystallized appearance ; to this surface should be added a sufficient amount of gold to complete the filling, before any pressure is made upon it, when the whole should be consolidated, moderately at first, over the entire surface, with an instrument sufficiently large to cover the entire surface of the cavity ; after which, as much pressure as the tooth will safely bear may be applied, with a smaller instrument, to every point of the filling, until it will no longer yield under the pressure, when it may be filed and burnished in the usual manner. If every step in the manipulation has been well and faithfully executed, we have a beautiful, safe and solid plug.

In my own practice, I have found it a great convenience in very many cases, where a portion of the wall of the cavity was crumbled or broken away, to bridge across with foil, in a manner to supply the loss of bone, and prevent the sponge from crumbling or breaking up at such points, while packing the walls of the cavity. This use of foil will be found almost indispensable with many cavities, especially in the front teeth.

The great variety of cavities with which we come in contact, make it indispensable to success, that the operator possess much patience, and a large share of practical mechanical skill. With all the demonstrations and instructions that can be made or given, without these prerequisites, natural or acquired, we cannot successfully practice the dental profession.

As previously stated, I have used within the past year several ounces of crystallized gold, and in the manner as above briefly described, with the failure of barely one plug that has come to my knowledge, and this failure was clearly attributable to moisture while packing, as it only failed in crumbling off a portion of its surface.

Among the variety of cavities, have been very many that it would not have been possible to have saved, or properly filled with foil. I will relate two cases which this moment come fresh to mind. The first:—A lady called, about two years since, desiring to have her superior central incisors filled. After a thorough examination, I found the walls so thin and brittle as to decide without hesitation that they could not be filled in a manner to preserve them, and remarked to her, that to attempt it would only result in breaking away portions of them, thus seriously affecting their appearance, at the same time advising to let them remain as they were, until she was ready or willing to have them cut off or taken out; to which she assented, rather reluctantly. About one year after, I sent her word that I was then prepared to fill them, as I thought, successfully. Gratified at receiving such intelligence, she quickly came to the *rescue*, and, notwithstanding the walls of the cavities were very thin and brittle, they were filled to my entire satisfaction with crystallized gold.

The other case to which I will refer, was treated within the last three months. The patient, a young lady, very anxious to save her front teeth, (as they all are,) which had become so much decayed and broken as to present a very unwholesome and repulsive appearance. After making a very thorough examination, I advised to have them removed at once. She expressed herself as not disappointed at such advice, but still felt anxious that I should make an attempt to fill them, even if they could only be saved but for a short time. From her anxious entreaties I was induced to make the attempt, and did succeed, to my great surprise, in setting in those thin, weak shells, solid, and, as I have no reason to doubt, durable plugs; to use the language of a professional friend, who examined them a few days after they were filled, "such fillings must stand."

I might refer to many more similar cases, but these I deem sufficient to show the eminent value of sponge or crystallized gold. I have this day examined a mouth in which I placed, ten months since, twenty plugs of crystallized gold, every one of which, to all appearance, are in as good condition as when first set. Such facts need no comment, they speak for themselves.

Perhaps I should here state, that I have found that preparation of crystallized gold most condensed to work the best; and, in justice to White & Co., of Utica, that my success has been with their gold; and it might be great injustice to some, should I not state that I have not tried the preparation of others.

I have not entered upon a thorough analysis, or attempted definitely to answer the thousand and one objections that have been made to this new preparation of gold for filling teeth; neither was it my intention so to do. Its pure ductile and adhesive or welding properties seem to be universally recognized, which I deem to be the "*all in all*," with skillful use, and have only intended to offer some plain, ungarnished, practical statements and facts as I have found them in my own practice. If they shall prove of any service to the profession, my aim will have been accomplished.

Yours,

J. W. T. RICE.

Cazenovia, Oct. 25th, 1854.

The above paper on this preparation of gold for plugging teeth, proposes to settle some of the differences of opinion which have been, and are still entertained, on the subject of this important material. We have said before, that we wanted more facts and more experience before opinions; we still want them. We have failed in making satisfactory operations with sponge gold, and we have said so in the Journal, but without any desire to excite a discussion about opinions; every one's facts are useful, whether he is in favor or against a principle; our facts are abundant, and against sponge gold as a suitable and permanent material for plugging teeth; we are told that it requires great experience, perseverance and skill to use it; does it require more than those requisite for the successful use of foil? We are also told that it is a lack of skill if we fail with it; so is it if we fail with foil. We admit that we cannot acquire much skill in the use of a few ounces, or even a year's trial, but it must last longer than any one has yet used it, to be as well tested as foil. A plug looking well one year after it has been made with sponge gold, is not a sure sign that the tooth is in a good state of preservation. The citation of a few cases seem, as a general rule, to be taken as conclusive. Please to explain this one:—

We plugged a very large cavity in the left superior molar, crown cavity, and pulp destroyed many years. There was no reason why we should not plug the cavity firmly. Three or four months after, we

were obliged to extract the tooth, for looseness in the gum ; the surface of the plug was beautiful ; we put on a very little pressure, and our instrument perforated the plug ; we then filed the tooth in two, in the presence of other persons, and the plug was hollow, and all the gold below the immediate surface was like brick dust ; the tooth could not have been plugged, and a good surface made, by leaving such a cavity below. The tooth was also much blackened.

Another case, of a young lady about twenty years old, had a left front incisor plugged, left approximal surface ; large cavity, pulp dead many years. The tooth had been plugged three or four times in seven or eight years ; plugs did not seem to stay ; sponge gold came in use. The dentist who did the operation is respectable, and deservedly so. He plugged it with sponge gold ; took great care in doing it ; had sufficient space to operate in, the lateral tooth being absent. This tooth became much blackened, and the plug dropped out in less than five months. The patient left her dentist. We found the tooth containing much decay ; whether it had been properly prepared we knew not, but the patient believed that it was, as it looked very white when the dentist was operating on it. This case was from one who believes sponge gold a great discovery. This tooth was cleansed well, and plugged with foil No. 4.

While we were examining the first case, we filed a large molar in two that had been plugged seven years with foil, crown plug, and very large ; the gold was as bright as when it was first put in, had undergone no deterioration, as was true of a number of sponge gold plugs.

Among whom do these differences of opinion exist ? We should answer—as much among those who are favorable to its use as between them and its opponents. The above writer remarks, that one particle cannot be made to adhere to another, when one part is consolidated, even though the surface is rough. Prof. Arthur, in the October number of this journal, remarks : “ It not only welds together in the mass when compressed, but, if certain conditions are observed, one piece welds firmly to another which has undergone compression. It becomes so dense, indeed, that it is not more readily cut than an ingot of pure gold. So advantageous are the properties it possesses for the important purpose in question, that if a firm hold can be found for any inconsiderable portion of it, a filling may be completed to answer fully all the purposes of a filling, without reference to the form of any other part of the cavity.” What is the real truth in this difference of opinion ? The last cited author, and for whose opinion we have great

respect, says that it is good in large and deep, and very small cavities, with great saving of time, but in medium-sized cavities quite as good a filling may be made of foil, and in less time and with less labor. He further remarks, that "in the average number of cases I think it is necessary to prepare the cavity better, for using the sponge gold, than the foil. As this gold does not expand at all under pressure, it will not remain in a cavity in which gold foil will readily be retained." Our author first referred to, says that it will make a better filling, in every important respect, than foil.

Now, how is an inquirer to gain a correct idea, where there is such a confusion of tongues among its advocates? That many operators have failed to plug frail cavities with foil, or have hesitated to do so, until sponge gold came into use, is no argument in its favor, (in our humbler estimation it is an argument that they have not done their duty.) Many dentists plug teeth every day with foil that the most eminent men have refused to plug, on account of the frailty of the teeth and other causes; and every operator is plugging teeth from time to time, as he, step by step, gains confidence, that he would have otherwise refused.

As our first author remarks, that he sent for a patient one year after he had refused to plug two front teeth, on account of their frailty, and plugged them with sponge gold, and they do well, is a proof that he was mistaken in his first diagnosis. They could not have been as badly decayed as he supposed, or they would not have lasted a year. This we have done over and over again, as our experience increased, and operated with foil in plugging all sorts of cavities, frail, complicated, sensitive, &c. We believe that any tooth can be plugged with foil that is worth plugging. So far as its frailty is concerned, a tooth that will not bear plugging, will not bear use after it is plugged. It will not wear long enough to pay for the time, inconvenience, money and labor that it costs, merely to plug a frail tooth to show how far the art of plugging can be pushed, as a piece of show work, at an expense of from fifteen to thirty dollars, is no argument as to what will best meet the great and permanent wants of the public. We regard improvements as valuable in proportion as they look to economy in time, labor and money expense. As there is no economy in time, &c., claimed for this new improvement, over foil, which we know to be good, in what does its merits consist? We are as anxious as any one in the profession to shorten the time, and lessen the labor and expense of the important operations of plugging teeth, but cannot see how it will ever be accomplished by the employment of sponge gold.

For the Dental News Letter.

MESSRS. JONES, WHITE & McCURDY—*Gents* :—In the April number of the News Letter, I see a small mistake in the drawing of the soldering shovel I sent you. The place for the batch to lie appears to be cut out, which was not the intention of the inventor.

I now send you the drawing of a covering of the instrument case of the traveling dentist, which he will find more convenient and useful than any thing we have seen, of the sort, in use. It must be made of sole leather or saddle skirting, so as to have it strong. It must be cut so as to fold up over the instrument case, and fastened by means of eight straps or buckles at or as near the top as is necessary. This, with a strong leather strap buckled around the case lengthwise, compose the whole of the work it takes to make one, except the sewing in of two end pieces of the top or lid. The ends of the main part are not to be sewed up at all.

Then by unloosing the several straps, the covering falls down all round, and exposes the instrument case, which may be opened out at the ends and front, and the top raised at pleasure.

We think it very convenient and useful, and if the brethren of the profession have not already employed its use, we tender it for their benefit.

Yours, as ever,

NICK. HACKWORTH.

Springfield, Ala., Nov. 12, 1854.

For the Dental News Letter

MESSRS. EDITORS:—The difficulties you speak of in the last number of the News Letter, to be overcome in rendering practical the mineral plate process for sets of teeth, appear to me more as theoretical, than real objections.

The first cardinal point to be considered in the matter, is to make an exact allowance for the shrinkage of the porcelain in the cast upon which it is moulded.

To effect this, let the cast, which is a perfect representation of that part of the mouth which is to be fitted with an upper half-set, be sawed apart in the middle from front to rear. Now, if the material shrinks one-eighth in burning, let these two halves be separated that distance, which will make the space between them somewhat in the form of the letter V, and this space may be filled with plaster. Then let the cast be cut apart crosswise, at about one-third of its length from the front, the parts separated one-eighth, and filled between with plaster as before. The other half of the matrix may be formed in the usual

way. The under cast need be cut apart but once, and that crosswise then finished in the manner of the first.

Even in this way, I am taught by that experience which does not deceive, that the difficulties of shrinkage may be met, not only partially, but *completely*. As to the difficulty in carving, there certainly is some skill requisite in this ; but in the plan under consideration, the difficulty of carving the *teeth* is no more than that for blocks, and if it is supposed the difficulty is in "particularly the plate running over the roof of the mouth," that has often been made after the teeth were carved, by simply spreading the material in with a small brush, and is the work of four or five minutes.

In my experience, I never have known a plate to *warp*, and they certainly never will, if they are properly bedded on the tile. For this purpose kaolin may be used to file the plate, and the upper one inverted upon a thin bed of the same, so that it shall rest upon its entire inside surface. The under one may be served in the same way, placed in its natural position.

Now, to burn them, there may be a liability of their splitting or parting, unless due care is taken to guard against it. But I know of one way which always has, and ever will, effectually prevent it ; and that is to heat them gradually. If a case is well bedded and placed in a cold furnace, a fire may be kindled under it, and thus burned without fear of its cracking. I do not say that one cannot be burned without cracking, unless this degree of caution is observed, but I do say that this will prevent it.

When this kind of work is semi-fused before it is enameled, I am inclined to believe that it should be in a moist condition the second time it is placed in the furnace for burning. The process of cooling should also be gradual, and by thus properly annealing the case, it will possess a strength which cannot be broken in the human mouth. A tooth, or a block upon a plate, is quite differently situated for resisting the forces brought to bear upon them from a solid arch like this, and I say that which I know to be correct, in asserting that a sufficient force, or length of service to break them, would not injure this.

'Tis true, it is necessary to grind a case after taking it from the furnace ; but as its general shape is not to be altered by grinding, the labor in this respect is not great, and it is easily done. The entire inside surface should be ground over for the sake of having a ground surface ; and it is a fact that such a plate will adhere more firmly than a metallic one. It is safe to say, that a case of this kind requires no more grinding than is ordinarily done to fit a set of gum teeth.

That to make a set of teeth in this way does not require so much time and labor, is what I have, and do claim, as one of its great recommendations. There is no doubt that a person familiar with other methods might, at first trial, find this to be more difficult, for this forms no exception to the general rule, that a thing is more easily done after learning how. And I do not believe the day far in the future when this will be universally adopted, for, other things being equal, that which is most pure in regard to this matter, will take the preference. Ivory teeth are no longer made, for they are not used, though great prejudice at first existed in regard to mineral teeth. They were "too brittle, less natural, and more expensive," and yet they soon came into use, and must forever be preferred, simply because they are purer—more perfect. So in regard to the manufacture under consideration. It must overcome the prejudices which ever exist toward that which is new: and this it will, for it is self-sustaining, reasonable in theory, and practically perfect.

MAHLON LOOMIS.

November, 1854.

[Without any further remarks from us, we refer the matter to those expert in the plastic department of our art, in the hope that we may be favored with their views on its practicability.—ED.]

For the Dental News Letter.

GENTLEMEN:—I have just seen some of the recent numbers of your excellent journal, a treat I do not often obtain, for, though I order it regularly of the dealers who supply us with material, I cannot procure it.

I was much interested with a plan for soldering whole sets, devised by your correspondent, Nick. Hackworth, but as I think my own process much more simple, I am tempted to trouble you with it.

I have a pot, of sheet iron, shaped like a saucepan, having a socket handle, with one of wood driven into it. The size of the pot is five inches high and four across; about an inch from the bottom it is pierced with round holes, three-eighths inch in diameter, and has a loose bottom, supported just above these holes, and also pierced. Into this I pack small pieces of charcoal, light it with the blow-pipe, and a few blasts of hand bellows brings it into red heat; upon this I place the set, carefully surrounded with plaster, and borax and solder properly applied, and above and around pack more charcoal, leave it for a while and go about other work; if left in a draught, such as an open chimney, in about twenty minutes the whole charcoal, plaster, case and all are in an equal glow; your excellent teeth, that will stand any

heat, if cautiously applied, having thereby got gradually heated, a few more blasts of the bellows urges the whole into a heat nearly sufficient for soldering, so that, carrying it by its handle to the bench, a few well-directed puffs of the blow-pipe thoroughly fuses the solder at the requisite places ; and, after removing some of the largest pieces of lighted charcoal, the whole is suffered to become as gradually cool as it was heated; and thereby all chance of cracking the teeth is avoided, and much time and labor of lungs is spared.

As you like fair play, I must add, the idea is not wholly my own, but improved upon that of a gentleman at Chester ; still you may think it worthy of notice.

I am, gentlemen, yours, &c.,

CHARLES COREY, L. A. C.

Liverpool, September, 1854.

For the Dental News Letter.

DENTAL NEURALGIA—NOTES FROM MY CASE BOOK.

Pain in any part to which the fifth pair of nerves is distributed, has been termed *facial neuralgia*. This affection may arise from thickening of the coats of the blood-vessels, as they pass through the foramina of the osseous structure, or the coats of the nerves themselves. Any alteration, in short, of any tissue to which these nerves are distributed, or any where along their course, from their origin, may be the exciting cause of pain. Facial neuralgia, a certain kind of headache, or dental neuralgia, as the locality of the severest pain may indicate, will give it a name.

We destroyed the pulp in a second superior bicuspid, right side, for a young lady seventeen years of age, and plugged it, in the usual length of time, and nothing unusual occurred during the treatment. We also plugged the anterior surface of the first permanent molar at the same time. In the course of a few days the patient returned, suffering pain in the whole side of the face, which she attributed to the tooth in which the pulp had been destroyed ; we took out the plug, and found no signs of pain ; we plugged the tooth again in a few days, but in a short time the patient returned complaining, and begged us to extract it ; we did so. We found the pulp dead, and no inflammation at the end of the root, so we did not consider that the pain was caused by this tooth. In a few days the patient returned, with great pain in the first molar, which had been plugged, and which was a living tooth. We took the plug out, and found that the pulp was not exposed, as the decay did not extend more than half way to the pulp ; the patient,

however, believed that the pain was better for a few days, but it would come on at intervals. We plugged the tooth again, believing that it could not have been a cause of pain; the tooth was better for a few days again. Indeed, it seemed that to take the plug out, the case would improve, and to replace the plug it would improve also, but nothing seemed to cure. We therefore extracted the tooth; found no disease at the root; we cut the tooth in two, and found the pulp cavity filled, two-thirds at least, with ossific matter, and a serous fluid filling up the space between it and the walls of the dental cavity. There was some red blood in the roots, but none in the body of the cavity.

There is no doubt in my mind, that the ossific formation in the pulp cavity was the cause of all the pain that the patient suffered, and if we had known its real condition before we extracted the tooth, we could have saved it as well as any other tooth. Will this not explain many obscure cases of neuralgia that are met with from time to time.

J. D. W.

For the Dental News Letter.

MELTING AND REFINING GOLD AND SILVER.

MESSRS. EDITORS:—Professor T. L. Buckingham deserves the praise of the dental profession generally, for his practical treatise on the above art. Under the head of editorial remarks on the above, I see you are disposed to use the hydropathic treatment towards all who may or should avail themselves of his very plain instructions in getting out and refining plate.

Admitting the fact that a large portion of the profession in the cities of New York and Philadelphia, would find the balance in favor of purchasing their plate cut to pattern, there are hundreds located in different sections of the country who would save both time and expense by getting out their own plate.

As far as hammering is concerned, in getting out plate, I find, by my own experience, that it makes no other difference than it does between forged iron or rolled. Ask any cart boy which makes the best hoops for his cart wheels, and you will get an answer in favor of the forged iron, for wear. When I want an extra good plate, I get it out under the hammer complete, never permitting it to touch the rollers. Now then for annealing. You cannot anneal too often, either for hammer or rollers; it is not, as the editor asserts, the often annealing that produces blisters in the plate, but heating the metal too hot that produces this effect. I have had a practice of over twenty years in

the following metals, viz: iron and steel, copper, zinc, tin, lead, gold, platina and silver. No matter what I have been formerly, for the last six years I have been practicing as a dentist. I find, in working gold, silver, copper and steel, that they all require the same care in heating. Example—Gold, silver and copper, when heated too hot, will blister and crumble off in pieces; cast-steel is completely spoilt by overheating, and invariably condemned for edged tools; copper can be reclaimed, to a certain extent, by plunging in pure cold water.

The question naturally arises, how far can we go in heating the above metals when working them out? We answer—thus far shalt thou go, and no farther, (that is, to a good red heat;) never under any circumstances permit the metals to run into a white heat, if you do they will blister, crack or crumble. We care not how fine the gold or silver is, too much care cannot be taken in heating.

In conclusion, we would say, if a dentist is not posted up sufficiently in chemistry to know how to keep his hands clean, (even if he has to refine his own silver in nitric acid,) he had better never undertake the operation of getting up his own plate.

W. P. HAYWOOD.

Tuckerton, N. J., November, 1854.

We publish the above from respect for its author, and that we may not be chargeable with excluding matter that controverts opinions we may have advanced.

We have no reply to make, further than to say that its author seems to have overlooked our chief objection, viz: that in getting out plate, the hands of the manipulator, from necessity, were rendered rough, and the delicate sensibility of touch greatly impaired or destroyed, beside their unpleasant appearance, etc.; all of which rendered them unfit for operations in the mouth, and unsatisfactory and objectionable to the patient.

The correctness of our theory, drawn from experience in the working of gold, we leave to the decision of those practiced in our art.

J. R. M'C.

For the Dental News Letter.

MESSRS. EDITORS:—My attention has been called to an article in the July number of the News Letter, dated Havana, Cuba, in which the writer, under the pretence of asking for information, has been pleased to make several false and libelous charges, in relation to the procurement by me of a patent for continuous gums, &c. He states "that

Mr. ———, from Brooklyn, obtained a patent, claiming the merit of invention or discovery," or something to that effect. This is unqualifiedly false in every particular, and he knew it. He also states that he (several dentists) was requested by the regents of the University, to ascertain whether I had imposed upon them. This must be false, also, for those very regents and the members of the Junta Fomento, well knew that I never applied or received the patent as inventor or discoverer. The fact is, that I applied for, obtained, and paid for, an *exclusive royal privilege* to manufacture and vend block teeth, continuous gum teeth, and vacuum plates, on the Island of Cuba. I procured it as *introducer*, not inventor, to the chagrin, no doubt, of all the quacks and tinkers on the Island.

In my practice of seventeen years, I have suffered frequently from these banditti stabs; and I am sorry that the members of our profession so frequently indulge in them against each other, and I would suggest the rule to you, not to admit anonymous attacks in your journal, professedly devoted to the advancement of the art.

Continued success, and a good share of go-a-headitiveness, is certain to beget enemies. "Well, let them curse away, the chickens will go home to roost" at last, as "Many Dentists" will find, before I'm done with him.

Yours, truly,

SALMON SKINNER.

New York, September, 1854.

We very much dislike to publish such communications as the above, because of their personality and harsh language, and we do it in this instance only because the writer feels himself aggrieved by a communication published in our July number, and this is our apology for bringing it before our readers.

We certainly think that the writer does not place himself in a very enviable position, before a professional public by "paying for and obtaining exclusive royal privileges to manufacture and *vend* block teeth, continuous gum teeth, and vacuum plates;" such things, in a professional man, savor strongly of quackery.

We have a holy horror of "*exclusive privileges*," and as a republican condemn them heartily.

By the writer's own words, it will be seen that the position he occupied might reasonably be mistaken for the one in which he was placed by our correspondent, in the July number of the News Letter—the difference is simply between a PATENT and an EXCLUSIVE PRIVILEGE *to make and vend*.

J. R. M'C.

WORLD'S FAIR EXHIBITION.

No. 16, PLACE VENDOME, PARIS, Nov. 13, 1854.

To the Editors of the "Dental News Letter."

Gentlemen :—On the 16th of September last I received, by the arrival of Drs. Tucker and Gage in Paris, from Boston, the July number of your Journal, which was the first I had heard or seen of it. I immediately wrote an answer to you, which was mailed here on the 18th, to go by the ill-fated Arctic. I perceive in that number a long and labored article, worthy of the well-known and peculiar ability of Dr. C. C. Allen, and a short one from J. G. Ambler, from which it would appear he is prevented from any attempt, "by the advice of friends," at a vindication of his character for truth, although the written testimony of several persons, entitled at least to as much credit as himself, stands directly opposed to his assertions.

Dr. C. C. Allen denies the truth of the following statement published in my account of the proceedings of the Committee on Dentistry at the late Crystal Palace Exhibition :—"It was proposed by Prof. Renwick that the whole should be referred to the Committee on Surgical Instruments. At that moment Prof. Carnochan one of the aforesaid committee entered the room, when it was unanimously agreed (proposition by Prof. Renwick) that the whole should be referred to him, (Prof. Carnochan,) and that his decision should be final."

Although so far from home, I am happy to have it in my power, from an article just received from the same hands, published in the New York Medical Gazette by Dr. John Trenor, Chairman of the Committee, to prove the total want of truth and common honesty in the statement made by Dr. C. C. Allen. All the other statements made in my published account can be equally sustained.

1. Dr. Trenor, in confirmation of the truth of my statement, says: "That Prof. Renwick proposed that the majority and minority reports, and awards of the Committee on Dentistry, should be left to the decision of Prof. Carnochan, and this proposal was agreed to by all the members of the committee then present."

2. Prof. Carnochan says, in confirmation of the truth of my statement: "The matter was left to me, and consequently the reports, (majority and minority,) were not acted upon by any other members of the Jury upon Surgery."

1. Dr. C. C. Allen, in denying the truth of my statement in a letter to Prof. Renwick, (which letter was published by that gentleman greatly to his prejudice, for the Professor knew better,) says: "There was no agreement or understanding between us that he, Prof. Carnochan, was to be umpire."

2. Dr. C. C. Allen, in his article in the Dental News Letter, says of my statement: "*This is not true*," and adds: "I did not understand that Prof. Carnochan was selected umpire any more than any other one of the Surgical Committee."

The fact that Prof. Carnochan was the only one of the "Surgical Committee selected"—the only one that received, saw, heard of, or acted upon the reports, and the only one that furnished to Prof. Renwick a written opinion, (being the only one consulted,) proves C. C. Allen what I, and all who are familiar with his acts, have long known

him to be, and I would here take leave to say to him, especially, that "*the Parmlyan Style of Composition*," so called by himself, is designed to denounce professional imposition and quackery, and to expose falsehood and dishonesty; and it would be well for him if he could prove my statements untrue; but he cannot. His denial of their truth with "*those who are familiar*" with his character and principles, will have no weight, and to those who are not familiar, I have adduced the above direct testimony to prove that either from design, or from long and habitual practice in such things, he is unable to state "*the whole truth fairly*."

I am not surprised at the testimony furnished by Dr. C. C. Allen to Prof. Renwick, for Dr. A.'s "*conscience*" is of that peculiarly accommodating character, that with his sense of justice, he could not refuse the Professor a helping hand in his emergency and time of need. The plain straight forward article of Dr. Trenor published in the July number of the "*New York Medical Gazette*" in relation to this matter, must be gratifying to every lover of truth and justice, for its clearness and undeniable truth, sustained as it is, by unanswerable testimony, and placing in their true, but no enviable light, those who have taken issue with him. The "*Good Book*" says: "*The mouth of them that speak lies shall be stopped.*" Whether that applies to, and includes those who knowingly make and publish misrepresentations in dental journals, I do not know; but if it does, and Dr. Trenor's article does not "*effectually stop*" the mouth of C. C. Allen, I shall despair of the words of the Psalmist having any good effect upon his moral nature.

I have lately been favored with a printed letter written by Prof. Renwick, and published by Dr. C. C. Allen, in which the Professor in speaking of my statement, says: "*With Dr. Parmly I am unfortunately at direct issue.*" It gives me great pleasure to know that I am "*at direct issue*" with the late Professor of Chemistry and Philosophy in Columbia College." I should be sorry not to be "*at issue*" with any man, however high his station, who could say what he did in relation to "*facts*" and "*awards*," to wit, the Professor says: "*Having duly weighed all these matters, I laid all the facts of the case before the Commissioners of Juries;*" and again, "*upon this report the Commissioners of Juries granted all the awards.*" Now, it is well known that the Professor never "*laid the facts before the Commissioners of Juries*," and it is equally well known that the Commissioners of Juries never saw the report, nor had anything to do with "*granting all the awards.*"

It also gives me great pleasure to know, that I am "*at direct issue*" with a person who has no higher sense of justice or propriety than to assume the right to set aside the majority report of a committee duly appointed to make it ; and also to set aside the decision of Prof. Carnochan who was particularly named by himself to act alone in the matter, and who was, upon the Professor's own proposition, especially chosen and agreed upon, by all present, to decide upon the two reports, and who did decide *in favor* of the majority report, and gave his written confirmation of the same to Professor Renwick, who never submitted a line, or a scrap, to any other members of the Surgical Committee, which he could not have failed to do, if the "facts" in the case had been as he himself and C. C. Allen allege. Notwithstanding this, it would appear, Professor Renwick, without consulting the Commissioners of Juries or the Committee on Surgical Instruments, as to the propriety of making "awards," made them himself, without possessing any knowledge whatever of the individual merits of the exhibitors, or of the things exhibited ; as a proof of which, he gave the highest prize "*for the largest collection of mechanical dentistry,*" which of itself was not true—and even if it had been true, it was not entitled to any merit on that account. Even the "familiar friend" of J. G. Ambler, C. C. Allen, says—"Certainly no one could have been more surprised than I was, when I saw it announced that they (Ambler & Avery) had received a bronze medal." At the same time, and in the same paragraph he says, "that Professor Renwick with whom the two reports were left, so recommended it to the Commissioners, after examining the articles, and they saw fit to ratify it." Now, it turns out that it was Professor Renwick, and not the Commissioners, who "*saw fit*" and who truly *rat*-ified his own recommendation ; and as to the truth of C. C. Allen's statement, I defy him, or any one else, "*to ratify,*" it, except in the same way.

I also desire to be "*at direct issue*" with a man who without authority, and with great injustice to Jones, White & McCurdy, Charles Abbey & Sons, as well as to others, informed the committee through their chairman, that *silver medals* would not be allowed, but they were allowed on articles of much less value, thereby depriving Jones, White & McCurdy, and Charles Abbey & Sons of what they were justly entitled to, to wit, SILVER MEDALS, and also depriving others, N. Kingsley, of New York, and R. T. Reynolds, of Philadelphia of what they were equally well entitled to, BRONZE MEDALS. Professor Renwick would therefore do well to justify his own acts in this matter, and make clean his own skirts, before he undertakes to help his willing

aid, Dr. C. C. Allen, out of his dilemma. With both of whom, and with all such, I am fortunately (not "unfortunately") "*at direct issue.*"

There are other remarks which the Professor has thought proper to "step aside from his dignity" to indulge in, such as "angry feelings which threatened to break up the meeting." If such was the case, to use his own words, "*a fact of which I have no recollection,*" the learned chairman of Jury F was, to say the least, very remiss in his duty in not calling the turbulent spirit to order; but as nothing of the kind happened during the evening, I deny the assertion, and defy him to establish the truth of one sentence, or even one word, uttered by me in the violent "anger" which "threatened" such direful consequences. I therefore throw the imputation back upon his own head, believing it to be one of the indulgencies of his brain, which he would find as difficult to prove (except by the pliable Dr. Allen) as he would to prove that he "*laid all the facts of the case before the Commissioners of Juries,*" and "*upon this report they granted all the awards,*" which "awards" he, from undeniable evidence, "*granted*" himself.

In C. C. Allen's article, in the July number of your journal, I will particularly notice one passage, in order to admit its partial truth. Dr. Allen says—"Those who are familiar with the Parmlyan style of composition will not expect to find the whole truth fairly told in any thing that emanates from his pen."

Permit me to say, that this is a large stone for a man to throw who lives in a glass house, the foundation of which is laid in no acknowledged principle of honest mechanic art—no truthful design, and built after no known order of architecture; the covering of which is a mere "*watch crystal,*" which may be broken. But since he has thrown it, after going far back in the path of years to pick it up, and since you, gentlemen, have given it currency and published it to the world, you will permit me, through the same channel, to say that I admit, as far as relates to himself, that I have withheld, or concealed from the public, "*the whole truth*" of what I know of his own acts and character, having received the confirmation of the same from his own lips and from his own pen, in which, according to his own statement, the principle of truth and honesty stand deeply involved. Dr. C. C. Allen is aware I know these facts, and he is also aware that, up to this time, my "style of composition" has not embraced them—which circumstance gives him a perfect right to say that of himself "*the whole truth*" has not been "fairly told, *i. e.* if his own admissions are true.

When it is told, those who are *not* familiar with the Allenian mode

of appropriation, may expect to find truth fairly represented, and honesty fully exemplified in all that has emanated from his pen, and also to find right and just all the decisions made by his "*conscience*," and furthermore, to find unsullied and untarnished all that has been touched by his light hand, or lighter fingers. But let Dr. Allen tell his own story in his own way, as he told it to me, and I apprehend all who hear it will come to the conclusion, that there are many who give similar accounts of themselves and their acts, who live in houses not built of glass, who do not fare sumptuously every day, and who do not every day appear clothed in fine linen. Those who are familiar with his mode of appropriation, will expect to find the Allenian style of composition, in sentiment at least, like that which "*emanated from the pen*" of DR. DODD under peculiar circumstances, in the neighborhood of Temple Bar; but at the same time they will find it in character so closely resembling STEELE, that it will require nothing beyond the ability of a "self-taught dentist" to "extract" it.

This is not the first time that C. C. Allen's tongue and pen have given to my "*style of composition*" the character of untruth or falsehood. It is now more than thirty-five years since that "style" has been before the public in a printed form, and I challenge, nay, defy him to produce the paragraphs and examples upon which he can sustain the charge. I do this in order that the public may know what reliance to place upon his word, and upon what grounds he builds his small battery of detraction and slander. It is true, that knowing his character and his principles from his own lips, and from his betrayal of our confidential proceedings in the late Committee on Dentistry, I refused any longer to sit in committee with him. But that does not justify him in publicly stating what he cannot prove. I therefore again ask C. C. Allen to bring forward all passages containing untruth or falsehood as alleged by him, and in my reply he shall have no cause to complain that "*the whole truth*" has not been "*fairly told*."

In relation to my letter published in the April number of your journal, which C. C. Allen says "*is not true*," I hereby pledge, by attested proof, that I will sustain every paragraph in it, and not only so, I furthermore pledge you to sustain, by proof, every fact and every intimation of a fact, that I do now, or may hereafter communicate. And if you require the same pledge from your other correspondents, your journal will be the harbinger of more truth and less falsehood, more correct professional theory and practice, and less deception and quackery than has hitherto distinguished *some* of the journals that have professed to be devoted to dental literature, and to the advancement of the interests of the dental profession.

Since you have scattered broadcast over the land the assertions of C. C. Allen, permit me in conclusion to ask, as an act of justice, that you too will request him to furnish you the examples of untruth, found by him in my "*style of composition*," and thus give him a chance of proving his own words to be true, by showing that mine are not true; and I promise you in return, that I will produce passages from his own pen that he cannot prove—principles from his own lips that he cannot justify, and acts involving traits of character that he will be slow to acknowledge—but will not deny—and then let the public judge whose "*style of composition*" will best bear the test of proof when examined by principles of truth and justice.

I am respectfully, &c.,

E. PARMLY.

We are sure we need not apologize to our readers for the amount of room occupied by the following papers. The importance of the subject will be manifest to every dental practitioner. All are vitally interested, individually and professionally, as the character of both are deeply involved. It is right we should all know the ground on which we stand, and this outspoken opinion of the medical profession, will strengthen our hands and render material aid in determining the psychical effects of ether—its peculiarities, and the dependence to be placed upon the testimony of ether patients.

There is nothing, perhaps, we could say as appropriate—nothing that would have as much weight, coming, as it does, from a different profession, free, as we must suppose, from prejudice.

We would enjoin upon all a careful, thoughtful reading.—J. R. M'C.

CASE OF DR. B. AND THE PSYCHOLOGICAL EFFECTS OF ETHER.

From the Medical Examiner of December, 1854.

Remarks on the case of a Dentist convicted of violating a patient while under the influence of ether inhalation. By E. HARTSHORNE, M. D.

The case of the dentist recently on trial in this city for an alleged outrage on the person of a patient while under the influence of inhaled ether, has painfully attracted the attention of our whole community, notwithstanding the revolting nature of its details. Fortunately for the peace of that community, and the reputation of anæsthetic agents, it is without a precedent in this country or Great Britain, and has but a solitary counterpart elsewhere. It has inflicted a lasting shock upon the public sentiment in relation to the use of anæsthesia in the absence of third parties and for trivial operations; and were it not for the dreadful stigma cast upon accuser and accused, and the life-long blight

entailed upon the latter, as well as all connected with him, we might try, as professional observers, to look upon the whole affair as a salutary, though bitter warning. But the inconclusive and meagre investigations and unhappy termination of the trial, have rendered it a source of serious distrust to all reflecting medical inquirers. It was not surprising that the hue and cry of popular excitement, and their natural echo in the columns of the public press, should strive to cut the Gordian knot without regard to scientific truth, but we confess to a grievous disappointment in the result of the legal discussion of the charge.

We have no desire to impeach the peculiar verdict of the jury, but we are imperatively called upon, as medical journalists, to engage at once, and to the best of our abilities, in the medicolegal consideration of the question. The vital importance of full and free inquiry of this kind, to the best interests of our profession as well as of society in general, must serve as our excuse for undertaking such a thankless and laborious duty. The task is anything but an inviting one, and we would cheerfully resign it into other hands more qualified to do it justice. Still less do we incline to add fuel to the flame of morbid curiosity already stirred up and fuming *usque ad nauseam* under the stimulus of the recitals of the crowded court room, and the ample, though prudely mutilated pictures of the daily papers. This very publicity, however much to be deplored and deprecated, increases the necessity for a closer, and we hope more thorough scrutinizing of the subject.

In thus dealing with the facts and reasonings presented by the only available reports of the trial, our intention is to adhere as much as practicable to the medical facts and principles alone. We have no personal acquaintance with the plaintiff or defendant, and do not profess to be the advocate of either party. Our desire is for the sake of our medical brethren, to whom this paper is especially addressed, honestly to arrive at what we conceive to be the truth so far as that can be really ascertained; at all events, to release the record as it now stands before us, from some share of what experienced medical jurists will support us in asserting to be dangerous error.

In entering upon our statement of the case, we take occasion to mention that the report from which we quote, is that published in the National Police Gazette. It is the fullest we have seen, and is sufficiently complete and accurate, we hope, to serve the present purpose.

A young lady of unimpeachable character, who has for some time been engaged to be married, is accompanied by her betrothed to the house of an eminent and highly respectable dentist, who had engaged

to plug one of her teeth. They arrive about 10 o'clock on Friday morning. She enters the house, and after "a few minutes" spent in awaiting the exit of two other ladies, she is ushered into the operating room or office. Here we will allow her to continue the narration in her own words :

I went into the office ; took off my bonnet, and Dr. B—— went to the washstand to wash his hands, and he asked me after the family ; I took a seat on the operating chair ; in a few minutes Dr. B—— told me one of the men wanted to speak to him, and he gave me a book to read and left the room ; did not say what man ; I supposed there were men there ; he has a room in which the teeth are made ; I believed those to be the men ; Dr. B——'s family were out of town at that time ; he said so, and the door was opened, and there was no furniture in the front room ; I don't know how long Dr. B—— was absent ; when he came back I was sitting in the operating chair ; he went to the instrument case, and began with my tooth ; the tooth was on the left side ; he commenced operating on the tooth before he gave me ether ; the operation was very painful ; he said he would either put something in to destroy the nerve, or give me ether, leaving the choice to me ; I told him I'd prefer faking ether ; I didn't learn what he proposed putting into the tooth ; he gave me the ether on a small napkin, folded up ; I felt very dizzy at first ; I was cold and felt very numb ; it increased upon me : I did not lose my consciousness of what was doing ; I continued to breathe the ether ; my eyes were closed ; I closed them voluntarily ; I did not try to open them for some time after ; after he gave me the ether he did not, as I remember, operate on my tooth ; he felt my pulse several times ; put his hand on my arm under my sleeve, up my arm ; I had a loose sleeve ; he did it once ; he put his hand on my breast under my dress ; on the bosom ; he put his hand on my person, under my dress ; I have a distinct memory of that ; I was not able to make any resistance or outcry ; he went round before me and raised my clothes ; I am perfectly distinct in my memory of that ; I did not try to cry out ; do not know if I was able ; after he had raised my clothes, my feet were crossed, and he raised them and put one on each side of the stool ; he then put his arm around me under my clothes ; he drew me down to the edge of the chair ; I do not know what he did after that till I felt pain ; he did enter my person ; it was then I felt the pain ; I was not able to cry out or resist ; I did not try ; I don't know what was his position ; my eyes were closed ; I have no doubt that he did enter my person, and did give me pain ; all this time I was conscious of everything that was going on ; after this he left me and crossed the room to the washstand ; I heard him pour out water into the basin ; after he had been to the washstand and returned, I opened my eyes, and saw my clothes up ; he did not see me ; I have a clear recollection of seeing my clothes up ; I closed my eyes immediately ; he put down my clothes, and in a few minutes he was at the side of the chair, and lifted me up into the seat ; I was just to the edge of the seat ; it was a large dentist chair ; in a few minutes he told me he'd have to take the tooth out ; that was the first remark he made, except the first, when he asked me if I was getting sleepy ; at the time he

entered my person I did not feel his person against me ; pain I distinctly felt ; when he spoke about taking out the tooth, I asked him why ? he said they were both decayed, and he could not save them both ; I told him I was afraid it would pain me, and he said he would not let it ; he then gave me more ether, and extracted the tooth ; it was on the left side ; when he extracted the tooth it was painful ; I screamed then ; he then assisted me to rise, and led me to the rocking chair ; I felt a little dizzy when he led me to the rocking chair ; he then went out of the room, and in a few minutes came up with a lady ; I have not seen her since ; he asked me if I would be introduced to her ; I believe I said no ; he did not introduce me then ; I heard him tell the lady he'd always been our dentist, and that we never had been to any other ; he said my teeth were very good ; he said I had taken ether, when the tooth was extracted ; I think she said something about hearing me scream ; he said yes, ether had not much effect on me, I was either nervous or for some cause ; in a little while I got up, and he introduced me to the lady ; I think it was Mrs. P—— ; I made several remarks, but I don't know what they were ; I then put on my bonnet, and Dr. B—— followed me down stairs ; the lady was left up stairs ; he came to the door, and I wanted to stop an omnibus ; he asked me how far I was going, and I told him to Third street and Lombard ; he told me I had better walk ; he said he thought I had some of the ether in me, and the walking would do me good ; I walked down Walnut to Sixth, and did not get in an omnibus ; I did not reproach Dr. B—— at the house ; I was afraid ; I stopped in C—— ice cream saloon, at Sixth below Prune ; I got ice cream ; I went then along Sixth street to Spruce, and down to Third and Lombard streets ; I was going to see a young woman that sent for me ; I did see her ; don't recollect how long I was there ; when I left I came up to Mr. T——'s, at Chestnut street, near Fifth ; I was very intimate with Mr. and Mrs. T—— ; I met Mr. M—— on the way up, near Sixth and Chestnut street ; he joined me and spoke to me ; did not accompany me to Mr. T——'s ; did not meet any but those I have named ; I reached Mrs. T——'s at 1 o'clock ; they had not been to dinner ; I first mentioned to Mrs. T—— what had occurred at Dr. B——'s ; the same day after tea ; that afternoon I was taken unwell ; it was the usual time ; the door of the dentistry room at Dr. B——'s was shut ; there are two doors in the room ; the one leading to the entry door was closed ; Dr. B—— said that he closed the door because the smell of the ether would go over the house ; the door was shut before he gave me the ether ; the chair is one that leans backwards.

Cross-examined—Dr. B—— was the dentist of our family ; don't remember the number of years ; it was from the time of my early youth ; he attended to all the members of the family so far as they required it ; I went to him with the approval of my parents ; he generally behaved like a gentleman ; I did not know his family ; don't know how many years I have been his patient ; when I called with Miss Thr—— it was to get my tooth plugged ; on several times before I had taken ether ; I requested it to be given ; I don't remember of his persuading me from it ; the tooth was not plugged when I was there with Miss Thr—— ; the following Thursday was appointed for future opera-

tion ; I did not go on Thursday ; Mr. Thr—— had the appointment made ; I believe it was on Wednesday morning ; I received a letter from him to that effect ; I requested him to go in with me ; he was there when the woman came to the door ; I was shown into the front parlor ; it was the usual place ; it was but a few minutes before the ladies came down ; Mr. B—— came down before ; he said he had several young ladies up stairs and would be down in a few minutes ; I went into the usual operating room up stairs ; the door opening into the front room was opened at the time ; it was the back room of the main building I was in ; the workshop is in the second story back building ; don't know how far from the room in which I was ; it is not upon the same level ; it is lower ; I don't know if I could see into the windows of the workshop from the window of the room in which I sat ; when Mr. B—— went to see the workmen he gave me one of the monthly magazines ; while I was in the room nobody came to the door that I saw or heard ; don't know of the doctor leaving that room ; did not see any woman there except Mrs. P—— and the Miss H—— ; the windows were closed in the room, *i. e.* the sashes were down ; no change was made in their condition while I was there ; don't remember any one calling as a sitter while I was there and Dr. B——'s speaking of it ; I did not know of Mrs. P——'s being in that house before she was brought up stairs ; I don't remember speaking to Dr. B—— of the fan and requesting him to give me ether ; from the time I closed my eyes after the ether had been taken, I did not open them until after the liberties had been taken ; I did not open my eyes until he returned from the washstand ; what I have described is from what I have heard and did not see ; I did not see any part of his person exposed, nor the application of any part of his person to me ; don't know, except from the pain, what part of his person was applied to me ; he passed his hand up my arm immediately after he had felt my pulse ; after the ether was administered a second time no liberties were taken ; I judge that he did not see me when I opened my eyes, because he was not in front of me ; when he told me he would have to pull the tooth, I asked him why ; the reason why I agreed to take the ether a second time was because I was afraid ; I was not afraid to have my tooth taken out, or to be operated upon further ; I don't know if either of my teeth were prepared for plugging ; I suppose he touched the tooth he took out ; that gave me pain ; I told him I'd had the tooth-ache ; another appointment was made for Monday at 2 o'clock ; I asked him when I was to come again to have them finished, and he said at that time ; I asked him that when I was going and had my things on ; he booked it at my instance ; I don't know if it was before Mrs. P—— came in or not ; Dr. B—— did not say there was a sitter waiting for the chair ; I did not see any one call to inform him of a sitter ; I never notice such small things as that ; don't know how long after he had finished the tooth that he went down for Mrs. P—— ; I did not remain more than five minutes ; Mrs. P—— said she came from the country and came to have her teeth attended to ; Dr. B—— followed me down stairs ; that is his custom, not only with me, but with other ladies ; when at the door I did not manifest any displeasure with him ; I told the doctor I wanted an omnibus ; I believe I bid him good bye ; soon after I got out of the door of the second story, I

told him to say good bye to Mrs. P—— for me, as I had forgotten it ; the chair I sat in was the one I had always used ; there was but one operating chair in the room ; Dr. B—— asked me if I ever rode on horseback ; I said yes, sometimes ; he said ride over and see us ; I replied perhaps I will ; that was up stairs ; on the way down to C——'s I did not meet any one I knew ; I did not meet any one on my way to Third and Lombard streets ; I told Dr. B—— I was going on an errand to Third and Lombard streets ; it was an errand for my sister in respect to some articles of dress ; I did not speak to her of the treatment I received ; did not sit down very long ; when I left Dr. B——'s I think it was a few minutes before or after 12 o'clock ; I don't remember which ; I don't know how long I was at C——'s ; not long ; reached Mrs. T——'s a little after 1 o'clock ; Mr. M'K——, whom I met, asked after the family ; I did not tell him where I had been ; he only walked with me a short distance ; I did not complain of any pain to Dr. B——, except the pain of my teeth ; I don't remember how long the first application of the ether lasted ; after I took it, I felt no pain in my teeth ; cannot describe the effect of the ether, except that it made me dizzy ; I did not see the doctor at all during the operation of the first ether ; I felt his breath as well as felt pain ; the pain did not continue long ; I had no other indication of the approach of my monthly discharge but that day ; it occurred in the evening ; I did not examine my person in the interval ; nobody examined it between those times ; I did not examine my garments ; my mother did on Sunday afternoon ; nobody before ; those garments don't remain now as they did then ; they are washed ; I don't know when ; I made the communication to Mrs. T—— after tea on Friday evening ; I told Mrs. T—— before I became unwell ; I gave evidence before the Mayor ; don't know if the garment was washed before that ; it was not washed till I went out home ; during the time I was at Mrs. T——'s till I was taken unwell, no physican was sent for ; I was never examined by a physician ; on the afternoon of Friday I was out riding with Mr. and Mrs. T—— ; we set out about six ; I do not know where we went ; somewhere on the plank road ; it was some time after I returned that I felt unwell ; spoke to Mrs. T—— on that subject after tea ; we had tea as soon as we came home from riding ; Mrs. T—— told Mr. T——, and Mr. Thr—— asked me a single question about it ; I answered it ; and that was all I said ; it was before I felt unwell that I told Mr. Thr—— about it ; he remained as long as I did, and went to my grandmother's with me ; on the next day I went out to the depot, but did not go to my father's ; Mr. Thr—— accompanied me to the depot ; I met Mr. and Mrs. T—— out there ; I did not see my father or mother ; I saw my father on Monday morning in Fifth street ; at the time he left to go down stairs, I did not see if he opened the door or not ; I was sitting with my back to the door ; I don't know why I refused to be introduced to the lady when he first asked me the question ; my father and Mr. Thr—— accompanied me to the Mayor ; Mr. and Mrs. T—— and my two uncles were there ; my father was there before I was.

Re-examined—I said that Dr. B—— generally used me like a gentleman ; he said a year ago that he should like me for his second wife ; he had a good many children, but they should not trouble me, as he

would get nurses for them : I spoke of it at home to my mother and sisters ; after the doctor took me out of the chair after the operation, all that I said was in answer to questions by him, or to remarks ; the reason why I did make another appointment with him (Dr. B——) was that I did not want him to know that I knew anything of his conduct ; I had not concluded what course to pursue.

Miss M—— was asked in reference to the question put to her by Mr. Thr——, which was objected to by Mr. Brown. The Court overruled the question.

By Mr. Brown—The remark of Dr. B—— about having me for a second wife was, I thought, spoken sportively ; I thought it improper, but mother said not.

Sarah T—— sworn—I reside in Chestnut street below Fifth ; I am acquainted with Miss M—— and family ; have known her from a child ; she came at about a quarter to 1, and remained there till about 8 o'clock in the evening.

To the question, did Miss M——, on the evening of the 4th of August, state anything of an outrage perpetrated by Dr. B——, Mr. Brown objected.

The Court ruled it out, on the ground that it was leading.

Mr. Reed varied, so as to bring it within the ruling of the Court.

Mr. Brown objected. He held that it would not be admissible at any time, much less at the present ; such a thing was never heard of. Hearsay testimony could not be admitted.

Mr. Reed said that if his friend could have brought a single book to show that the doctrine he advanced was the law, it would be worthy of some consideration ; but he could not do it. The fact of a contemporaneous declaration made by the victim of this secret crime, had always been held admissible. Mr. Reed quoted from 9th Humphreys a case in point.

Mr. Brown, in reply, said that in all the elementary books the principle is settled beyond controversy or cavil. The statement of the prosecutrix could not be given in evidence. Mr. Brown quoted from 1st Phillips, in which it is ruled that the complaint of the prosecutrix may be given, but not her detailed statement.

The Court overruled the question on the ground that the prosecutrix could not make testimony for herself. It was not admissible as substantial testimony, nor to corroborate at this point of the case. The District Attorney could simply ask if Miss M—— did make a complaint on the evening in question.

Mrs. T—— in answer to the question, said that Miss M—— did make complaint at the supper table.

Mr. T——, sworn—I have known Miss M—— from childhood ; on the afternoon of the day in question, Miss M—— made complaint to me of Dr. B—— ; Mr. Thr—— and my wife were present ; it was at the supper table.

Mr. Thr—— also testified to the same points ; after which, the Court adjourned.

The foregoing extract contains all the material testimony against the prisoner. On the part of the defence, in the first place, evidence

of good character was abundantly presented. With this, we have nothing to do, as it does not affect the medical relations of the case. In the second place, the peculiarly exposed position of the operating chair and the liability to frequent sudden interruption, were fully shown. This, also, forms a part of the moral evidence which does not come within the scope of a strictly medico-legal investigation. A question, also, of time is determined by this point of testimony, which is important, and shall be noticed in its proper place. Now comes the testimony of the lady who arrived at the close of the momentous interview. It describes the apparent calmness of both the operator and his patient.

“On leaving the room she asked the doctor when she would call again; he named Monday, but I don’t remember the hour; she said then, ‘I will not go out of the city, as I am engaged to go out with a party on horseback in the morning;’ saw when she left the room that the doctor went down stairs with her; he was gone sufficiently long to take her to the door, as was his habit with patients; I did not perceive anything peculiar in the appearance of this young lady.”

The dress-maker, in Third near Lombard street, referred to in plaintiff’s evidence, and the young gentleman, also referred to as having been encountered in the street, here severally testify to the absence of anything remarkable in her manner or appearance. The evidence for the defence then closed, with a long succession of statements by different dentists and their patients, and by physicians, together with a number of citations of printed cases and authorities; all of which went to illustrate the peculiar effects of ether inhalation in producing hallucinations or illusions, and to describe its usual action on the consciousness and will, and powers of locomotion. For the purpose of rebuttal, three witnesses were introduced to prove that ether sometimes prostrates the muscular powers without interfering with the consciousness. An attempt was made, also, to introduce evidence of individual acts of impropriety committed by the defendant, on former occasions with different persons. This was warmly objected to by defendant’s counsel, and not allowed.

The prosecution then closed with the following examination of the family physician of the young lady. This examination is so unintelligible and evidently misreported, as it appears in the Gazette, that we were obliged to consult the witness personally. He was kind enough to put us right, and has enabled us to give it as corrected by his notes.

Dr. Huston, affirmed—I was formerly Professor of Obstetrics in Jefferson College, and am now Professor of Materia Medica and Therapeutics.

Q. What would be the advantage of an examination of a female after her menstrual discharges or disguising or obliterating any marks of violence on the person.

A. The presence of the menses would embarrass an examination very much.

Q. Would it disguise it or not?

A. It would very much mask the appearances. The most positive sign after such an occurrence would be the male secretion about the person of the female; but, unless that were in considerable quantity, it would not be easy to distinguish it, especially if the menses appeared within a few hours, or were very profuse.

Q. Would there necessarily be laceration if a female was violated under the influence of ether?

A. Not necessarily, but it might happen; there would be a relaxation of the parts at that time.

Q. Might there not be connection with a woman without leaving marks of it?

A. Yes. It would depend upon the condition of the parts. Sometimes the muscle that closes the entrance of the vagina is very strong and offers great resistance. I had a lady patient once whose husband called on me for advice, and stated that he had been married six months without being able to have connexion. It proved to be a case of the kind, and was relieved by the aid of dilating instruments. Generally, and particularly in females of relaxed habits, no such great resistance occurs.

Q. By Mr. B. Are you Mr. M.'s family physician?

A. Yes, and have been some twenty years.

Q. Have you examined Miss M. since the alleged assault?

A. No. I was called on by her father, by the request of counsel, as I understood, but, understanding that she complained of no soreness, and that the menses came on very shortly after she left the defendant's house, and had continued ever since, I declined making the examination and advised against it. That was on Wednesday or Thursday of the next week.

Q. and A. Do you know of a letter written by me (Mr. Brown) calling for an examination? I do not.

Q. How long have you been in practice?

A. Nearly forty years.

Q. What effect would ether have in bringing on the menses?

A. It is stimulating, like brandy, and might hasten the appearance of the discharge.

The history of the trial would be very incomplete, without some portions of the able charge with which the case was submitted to the jury. This furnishes the only practical analysis that appears to have been given; and considering the unsatisfactory nature of the medical evidence elicited, it is as full and fair a survey of the actual ground to be debated, as the prisoner could wish. The few extracts to which our limits must confine us, will exhibit the material points and course of reasoning, suggested by the judge as governing the argument on either side.

"One of the learned gentlemen has said that it is an accusation easily to be made, and harder to defend, be the party ever so innocent. For this reason it is usual to look for some corroborating circumstances, which are generally found. If the woman's person discover signs of having had connection, and the act be done in a remote place where persons passing could not be called, all these are, and may be shown in corroboration. Here, however, from the nature of the offence, and the manner in which it was accomplished, none of these corroborating circumstances can be produced. The space of time to which consideration may be directed to, is limited; for this offence, if committed, was committed on the morning of the 4th of August, between the hours of 10 and 11 o'clock. The evidence seems to show that she arrived in the neighborhood of 10 o'clock. No other person was present from that hour to 11 o'clock. To that point your attention is particularly called, and to what transpired in that room. Give that part of the evidence particular attention and careful scrutiny. The only persons present were the witness, Miss M., and the defendant, Dr. B. And unless you are convinced of the truth beyond any reasonable doubt you shall at once acquit the defendant. If her testimony, the nature of the circumstances, and her position, cannot be relied on, then there is no other evidence upon which he can be convicted. Her testimony is direct and positive as to what occurred as far as she could judge. And her ability to know what was going on and doing thus depends upon the situation in which she was at the the time. She was under the influence of ether, administered to her in preference to something else calculated to relieve the pain, she being permitted to choose two remedies. The question arises, what effect had it upon her system? Did it deprive the muscular system of power? had she her consciousness? was she able from this consciousness to know what was going on? She tells you that the doctor laid his hands on her, the manner and character of the offence. You are to judge from that testimony, whether the act done was a carnal knowledge of her person. You must be satisfied that the person of Miss M. was actually penetrated by Dr. B.; and you must be convinced of this. The Commonwealth rely exclusively on the accuracy of her statement; they say, and say properly, if she was in a condition to know, she could be relied on. Her character was unimpeachable. And if you find that, at the time of this occurrence, there was no delusion or illusion, then her testimony is to be properly and fairly relied upon. It is shown to you on the part of the Commonwealth that some of the corroborating circumstances attending a case of this kind, from the very nature of the transaction, are not very satisfactory, owing to the fact that there is relaxation of the body after inhaling of the ether. An exertion of the muscular power is impossible. The Commonwealth rely on this fact, that some of the corroborating circumstances which attend such an act would be wanting, and could not be exhibited from the relaxation of the system. There might not be that evidence of violence which would be exhibited if a resistance had been made.

* * * * *

"On the part of the defence, it appears to me, the evidence is to be viewed first as to the situation and position of the witness; second, they rely upon the fact that this was an illusion. That at the time of the

alleged perpetration she was under the influence of ether, and the fact of its having occurred is an illusion, and entirely unfounded. They perhaps would take another position, and that is, being under the influence of this delusion, and being in a close approximation to her mouth, and the occurrence of this pain at the time, would make some explanation of the point in contact by the defendant. They would probably rely upon this as being a cause of the sensation she referred to, being under the influence of ether, and that the delusion was caused by pain entirely different from that which took place, and brought on by the position of the woman, being near her monthly changes, they were facilitated by the relaxation of the body. They would, perhaps, rely on the want of corroboration; that no examination of the person or clothes, to ascertain the fact whether the act of connection had been performed. Of course, as Dr. Huston said, if the evidence of the act of connection had remained upon her clothes it would be a strong and overwhelming proof. Although it might to some extent be difficult to determine this, yet science is sufficiently advanced to determine this point. They would probably rely upon the conduct of the lady after this alleged occurrence. This lady came into town that morning, having several ends in view. She arrived at 10 o'clock, after that there was a visit to the dress-maker, and after that to Mr. T——'s. The defence might have said, in going there she was out of her course, and had the outrage been true it would have been disclosed in the first place to her mother. You will consider this in connection with her position at that time. She was so far in the possession of her reason as to judge what had been done, and either the excuse she makes for not revealing her case to Mrs. P. was entirely untrue, or she desired first to see her mother for that advice so important at that time. They might also take another ground of defence. The improbability that such an offence was committed at that time and place, and upon this they would rely with great certainty; but how, it is for you to say. It is alleged to be committed in the vicinity of a room where there were five persons, who could have heard a scream if made—who could have seen into this room if their attention had been called to it. And therefore the defence say that it is improbable that he would take that time for the perpetration of a deed like this. * * * *

The last defence they might rely upon would be that of character. They assert it would be highly improbable that a man who has the character of this man, would be guilty of such an act. Character, in cases of doubt, is of importance when the evidence leaves a doubt on the mind. When a man even has a character beyond suspicion, it must not be too much relied on."

In reviewing the evidence now before the reader, we must examine it under the two distinct heads of direct testimony and corroborative testimony. Corroborative testimony can not be positive in such a case; and although indispensable to a just conviction, it is of secondary weight, and only valuable for proof according as it approaches the positive in character. If the direct testimony be tainted with a serious doubt, then the corroborative testimony must be doubly strong, in order

to counteract that serious doubt. The only direct and positive testimony on this occasion, was that of the young girl herself. The question, therefore, to be determined, resolves itself into two inquiries: 1. Is the evidences of the complaint to be relied on beyond a reasonable doubt? 2. Are the circumstances sworn to in corroboration of the complaint sufficiently decisive to confirm her evidence beyond a reasonable doubt?

Now, let us analyze the plaintiff's story. The time to which it especially refers may be divided into three separate and successive periods. First, before the etherization; second, during the etherization; third, after the etherization. Her veracity and mental sanity are not suspected. There is no reason then to disbelieve her account of period No. 1. It is clear enough as to the general nature and succession of events, although not remarkably precise; but as to lapse of time and its special distribution, the narrative is not so very clear. She reaches the house about ten o'clock, after having walked, she can't tell how far, with her betrothed from the railway station, which she had left at half-past nine. She is detained "a few minutes" and then goes up stairs into the office. Here "a few minutes" of time pass in commonplace conversation, while she takes off her bonnet and seats herself, and he washes his hands. "In a few minutes" the operator tells her he must speak to one of his men, gives her a magazine and leaves the room. She does not know how long he was away, nor is this shown by other evidence. It is only evident that neither operator nor patient was disposed to be in haste. There was not enough to do. He returns, finds her in the chair, goes to the instrument case, and at last commences on her tooth. She does not say how long he potted at the instrument case, or how long he was scraping at her tooth. Here we need important information. What is his habit? Is he slow and desultory, or methodical, prompt and rapid? How long does it usually take him to clean and fill a very carious tooth? Where is the tooth itself that was the unwitting source of all this trouble? He seems to have loitered most unfortunately during a considerable portion of that eventful or most uneventful hour. Who can say that he did not loiter still more fatally until the hour expired? If there were time and to spare for any operation on the teeth, surely there was more than time enough for the perpetration of the single momentary act, so vaguely charged against him. Was it his habit to adhere so rigidly to a single specified procedure on a set of teeth that had been under his professional care throughout their possessor's life? Had he no right, if in the course of operating, it were deemed advisable, to substitute extraction of a

tooth for plugging, or to remove some other tooth that might be ascertained to be too far gone to be preserved without injury to its neighbors! We regret that none of his professional brethren were called upon to throw, perchance, some light upon these problems in dentistry, and that some of his numerous friends and vouchers were not interrogated in regard to his usual *modus operandi*. To return to Miss M. The operation, whatever it might be, was painful; this leads to a consultation, a determination to resort to ether; another long or short delay, and the administration of the vapor from a napkin. Sooner or later she feels dizzy, cold and numb; her eyes are closed; she continues breathing the ether and the symptoms "grow upon her." The mysterious spell is deeply working, yet she does not lose her "consciousness of what is doing;" she is aware that he is taking liberties which would rouse any woman in her senses, yet she makes no effort to unclothe her eyes, and is incapable of outcry or resistance! Here we must pause, already past the threshold of the second and crowning scene of this wretched drama. At first dizzy, cold and numb, she has become powerless, voiceless, sightless and yet feels the slightest touch, perceives a breath, hears every footfall and even suffers pain, one throe of which receives the worst interpretation. This is one case of a thousand—a miracle of sense and nonsense, even for that juice of Oberon's flower, the wondrous ether!

On her own showing, afterwards confirmed by other witnesses, she had been inhaling ether, and she accurately describes the ordinary gradual invasion of the ethereal aura.

Now, if we are to believe the first part of her recollections when she was undoubtedly awake, we are bound, according to the well-established experience of the effects of ether, to believe that she had then become confused and bewildered, and liable to hallucinations and disordered sensations, if not altogether unconscious,—*non compos*, in other words—and for the time being as incapable and incompetent a witness as a lunatic, an inebriate or an idiot. We know that there are grades of competency even for these afflicted classes, and that she may have passed through different grades of consciousness herself, but how are we to determine this? Her own senses were fallacious, and there is nothing else to aid us in the details of her story. Nor can we find anything in the evidence, or on record, or in our own experience, that will justify us in the admission, that she or any one had ever been so *helpless* under the influence of ether, and yet *entirely* aware of what was going on.

A similar assertion as to consciousness may be heard in almost any

drowsy company, and with quite as much reason, for aught proved to the contrary, although the self-styled "wide awakes" may have been snoring all the evening. Nothing is more common than this illusory insomnia among invalids at night; and it is well known to amount often to a most absurd hallucination. We have had patients gravely to assure us in the presence of a crowd of students, that they "had not slept a wink for six weeks!" others that they never closed their eyes at all; and we have heard of an individual, formerly well known in Philadelphia, who used to tell every body that he had not slept for years. It is in this half asleep and half awake condition that dreams in the sane, and hallucinations or illusions in the insane, are most frequently and vividly perceived. The topic is an interesting one, but we cannot dwell upon it further. The admirable monographs of Michéa, Baillarger, Brière de Boismont and Calmeil, probably contain the best appreciation and expose of such strange intellectual vagaries. We greatly doubt the genuineness of these exceptional cases of perfect or even tolerably clear intellectual consciousness with abolition of the will and muscular power. They have not yet been fairly tested. The difficulty of establishing the fact of lunacy in a great variety of cases, where weeks and months of observation are allowed, is a lamentably common source of error and confusion. How, then, is it possible to detect a want of mental equilibrium in the fleeting visions of an anæsthetic aberration that comes and goes like a delirium or a dream? But it is still harder to comprehend the possibility, not only of perfect consciousness, but of the sense of pain and touch in association with loss of muscular force and will. That she could actually suffer pain, or become aware of outrage while deprived of the ability to move a limb or make the least outcry or resistance, is by no means in accordance with the well ascertained order of sequences in the stages of anæsthesia in the vast majority of instances. If anomalous cases of that kind have been authenticated, they are too rare to make a rule, or to free our own from an unwieldy load of doubt. We might cite a multitude of authorities in support of this position. Channing, Flagg and others of this country; Snow, Simpson, Robertson, Forbes, Ranking and others of Great Britain; Longet, Flourens, Velpeau, Malgaigne, Dubois, Sedillot, Bouisson, Bayard, as well as many others, French, German and Italian, whose works are noticed in the different journals, might be quoted. We are glad, however, to be spared the necessity of dwelling on these and other points relating to this branch of the discussion, by the able paper of our fellow collaborator in the present number of the Examiner. The reader will there find the medico-legal

bearings of the psychological phenomena of etherization fully and forcibly depicted. We take great pleasure in recommending the note of Dr. Stillé to general consideration.

If the plaintiff happened to be so keenly alive to what was going on around her, she must certainly have been aware of more than she describes. It is strange that she was not more closely questioned. A false delicacy in her case, on the part of the cross-examination, was surely a mistaken kindness, if it were allowed to operate; since an opposite course might have resulted—as we are inclined to think it would—in the strongest evidence of still unsullied innocence, unless some indiscreet domestic inquisition had succeeded in enlightening her. Much as has been said about “that hour,” can she really remember nothing of the second period of time, be it long or short, but what is contained in her rudimentary sketch? The outlines are deep and broad, perhaps, but they seem dimly and dismally far apart! We mean no indelicate allusions. We feel the most earnest desire to spare the feelings of all parties, and of none more than the unfortunate subject of these comments. We wish to believe her free from soil, and if we strike rudely at the ill-stained slough that has been thrown around her purity of fame, it is but to destroy its every trace.

But we refer to all that happened, and to much that no woman would hesitate to speak of. How does she *know* what he was doing at the time? Admitting for the moment that the pain was not imaginary, and that she did feel his breath, might not that pain have suggested the dream and a struggle at the waking moment? We mean not an “erotic dream.” No such dream or sensation is admitted by the plaintiff, although such dream and sensation have certainly occurred in many cases. We have heard several cases individually related, and we could quote others as well as those presented by Dr. Stillé. We might narrate a striking case of erotic hallucination occurring without ether in an undoubted virgin, narrated in detail by M. Michéa, (*Hallucinations, Mém. de l'Ac. Royale de Méd.*, vol. 12, 347,) but we have neither space nor inclination for such displays. We might challenge, too, the experience of every one accustomed to the treatment of the insane, and could easily draw upon our own recollections for many disagreeable reminiscences which would be very pertinent in this connection, but we cheerfully forbear.

Agreeing then for the moment to the occurrence of the pain, and attributing it to innocent and natural causes, we do not admit that at the time the plaintiff had any idea, certainly any clear idea, that she was being ravished. That was probably an after thought, and for

aught that appears to contradict this view, the long drawn conclusion of a whole day's brooding. But more of this in discussing the history and "phenomena" of period No. 3, the last sad scene of our semi-tragedy.

He did not, as she remembers, "operate on my tooth after he had given me the ether." Now, who is to determine this? The only witness present was, according to her own admission, under the influence of ether. Her eyes were closed; how does she know that he went round before her and raised her clothes? Was she really clairvoyant? She could not see what was his position; she did not feel his person against her person, and yet because she felt pain in a certain part, she was sure that he was penetrating that part! She felt his breath, but no part of his limbs or trunk; how then does she know that he was not behind her, supposing, for the moment, that she did not err in the sensation? How could she, in her utter ignorance and inexperience, distinguish the pain of penetration from any other kind of pain in the sexual organs?

How can she be sure that at the very moment when some internal action may have so developed a predominant pain in the vagina or its annexes, he was not still looking in her mouth and working at her defective tooth? How does she know that she did not herself unfold her limbs, slip down upon the chair, and herself unconsciously push up or throw up her clothes at the very moment when some hysterical or other spasm, under the combined influence of subsiding etherization and approaching menstrual paroxysm, was producing the single pang which she interpreted so seriously? How can she tell that this fatal pain was not the mere effect of the monthly change which she was expecting at that very hour? Did she never feel such pains before? What was her usual habit? We might dwell upon this point, but time presses, and we are writing for readers who need no aid in such inquiries. Would it be likely that Dr. B. should leave her, go to the wash stand and wash his hands without previously replacing her and her clothes in decent order if he had been the guilty violator she supposed? If he were working at her teeth when such a movement had occurred, what more natural than for him at once to cleanse his hands for the purpose of righting her disorder, as she describes him to have done when she was coming to her senses and stole that reconnoitring glance?

Women of undoubted virtue have been known to pull up their clothes and throw themselves on sofas while under the influence of ether, and they have been known to make even stronger demonstrations, as

well as others less equivocal. We do not mean to insinuate that in this case any thing of that kind occurred. It is not necessary. We have no objection to admit the fact of pain, and to allow that it may not have been produced by sexual excitement; but all medical men will understand, that such pain could be more easily and naturally accounted for, without this intervention of the ill-defined and far-fetched phantom conjured up by a deranged imagination, and fostered by a kind but woefully mistaken sympathy.

Supposing the act attributed to the defendant were fairly attempted or completed, or even partially completed, it is impossible to assume that the alleged victim knew exactly where he was and recognized his breath when she perceived the pain, without taking it for granted, that she at the same time felt other parts of his body and limbs more or less in contact with her body and limbs, and that she noticed other acts of his concomitant with that of penetration. Yet she expressly denies the sense of contact, and is not reported to have said a word in explanation beyond the extremely meagre statement of a puff of breath at one end of her body, and a twinge of pain at the other end, which have, by a stretch of judgment, anything but charitable, been twisted into the definition of a very different process. To demand a detailed and graphic picture, would be cruel and absurd. No decent, virtuous woman could afford such reminiscence, even where the sense of wrong were not involved. It is not a time for a self-possession that would deliberately note the current of events. We admit that women are mistaken with faculties unclouded by ether or any other drug. We admit that they may think themselves deflowered, although they really have escaped; and, *vice versa*, may consider themselves safe, when they have actually been debauched. Still she claims to have a "distinct memory" for impressions which she names without describing. We take no account of the feeling of the pulse, the touching of the arm, of the bosom and other parts of the person. These acts do not fill up the time required to be disposed of. The cleansing of the carious tooth would have occupied more time; and then the "liberties" are such as other patients might be proved to have imagined under similar circumstances. She proves too little or entirely too much. In order to effect a conviction on such evidence, the vital part of the question must be begged. The jury are called upon to accept the proof of etherization—as every body does; to ignore the probability of the most frequent, if not customary, effects of ether on the plaintiff—which every body will not do; to regard the action of the ether on the plaintiff as exceptional, and therefore not invalidating the directness of her testimony—

which many would not dare to do ; and lastly, to fill up the void in the only material evidence produced, by dint of their imaginations—which they ought to be ashamed to do ! Verily, a lame and impotent conclusion, if there be no adequate corroborative proof at hand, to cast the shadow of a reason on this confusion worse confounded !

What, then, does the corroboration really amount to ? This question brings us to the study of the third period of time in the stages of our investigation ; to the sifting of what happened or did not happen, after etherization had probably subsided.

Here occurs a seeming irregularity in our chronological arrangement. “That tooth” is not yet “sacrificed.” She is once more invited to take the subtle fluid, and, nothing loth, agrees. There is no assault this time, no loss of power—in short, no anæsthesia, for she feels the wrenching of the tooth and screams so loud that she is heard down stairs. She has again become a competent witness. Other witnesses look in from time to time according to her account, confirmed by theirs, and finally another patient is brought up. Do we hear from either of these new actors in the scene, or from the sufferer herself, of any distress of mind or body, such as would be certain to overwhelm most women under such a fearful trial ? Not one word ! She is calm and complaisant, converses freely, and suggests and makes a future appointment with her supposed destroyer ! What matron or maiden in the land will say that such self-command and entire absence of emotion are natural, whether or not under the necessities of doubt and fear ? We can only account for it in any degree by the hypothesis of a prolonged partial intoxication by the ether, such as frequently occurs. Still, in the clearness of her recollection, as sustained by the evidence of Mrs. P., she betrays no confusion of mind or internal conflict of feeling ; she sets out upon the business of the day as she would go from the breakfast table. In attending to her errands, she takes a long walk through the most frequent streets, stops to regale herself with ice cream at one of the most popular confectionaries, then fulfills an engagement to dinner at a friend’s. She accompanies her host and hostess on a drive in the afternoon ; and although eating little and looking sick at the dinner table, it is not until they sit down to tea that her doubts reveal at once their vent and climax, and the dreadful myth assumes a form and being in the private consultation with Mrs. T. Dr. B. appears to have thought that the ether was “still in her” when he advised her to walk rather than ride a mile and a half or two miles to the dress maker’s and back to Mrs. T.’s. Would he have given this advice, and could she have followed it without great difficulty and pain,

if the mischief had been done to her that is laid to his account? Many girls, in such a stress, would have required an ice cream saloon at every crossing. We do not deny that this is not the invariable consequence. It is the usual one, however, and its absence in this instance only increases the deficiency of corroborative proof.

It will be useful here to institute a comparison between the affair of Dr. B. and that of the Parisian dentist, the only other known to us. This individual was convicted Oct. 30, 1847, of having violated two young girls on two successive days. A brief account of one of the cases, that of Henrietta Soyard, found its way into the journals at the time, and is given below; the other is noticed only in the partial report of the *résumé* of the presiding judge, portions of which we have extracted from the *Abeille Médicale*.

“On Monday last a young lady attending in a store of the Palais Royal, called upon a dentist to have a tooth extracted. The dentist advised to have it plugged, and to assuage the fears of the patient proposed to administer ether; she accepted. What transpired during the unconsciousness of this young lady? It would be difficult to state it; but on leaving the dentist, after a lapse of three hours, the young girl was in a frightful condition. The lady of the store could not account for this long absence, and the condition in which the young lady was. The latter, notwithstanding the prostration caused by the ether, preserved some apprehension of the outrages inflicted upon her, and a few words dropped, gave rise to suspicions; she was put to bed, and a physician being called, he could ascertain to an evidence, in a positive manner, the violence perpetrated upon her person. A complaint was made, and the author of this atrocious deed has been placed at the disposal of the prosecuting attorney.”

This young girl retained a troubled recollection of the outrage which her subsequent agitation and the appearances revealed at the medical examination amply corroborated. The following extract from the judge's charge on the trial, still further confirms the justice of the accusation on both indictments:

“Let us, besides, notice the accessory details: When these young girls present themselves, how does the defendant begin conversation? By indiscreet expressions: Have you lovers? Are you a virgin? Have you been a mother? Why such questions; what could prompt them; do they not display the germ of bad thoughts, of infamous desires? The young girl Bazin has given an account of the acts, the remembrance of which had remained to her, and which have convinced her of the violence, and of the outrage to which she has been a victim.

She felt her strength paralyzed, her limbs benumbed, and found herself in the impossibility of opposing an energetic, active resistance to the actions of the man before her; but although her strength was exhausted, she did not completely lose the understanding and perception of the acts which were accomplished upon her person, and her perturbation was not such as to prevent her from preserving the recollection of the circumstances.

“At this juncture the judge criticises the very significant testimony of the young girl; then he insists upon the strange coincidence of the occurrences happening within one day from each other. Afterwards, reviewing the question whether the declarations of these young girls could not be the result of hallucinations, or a dream produced by ether, the judge enumerates the facts which the prosecuting attorney has brought to remove this hypothesis: he recalls the cries uttered by Miss Bazin; her tears, her desperation, the insults she lavished upon Mr. Aimé, called by her a wretch; and, on the other side, the embarrassment of the defendant in his answers.”

The experience of these young persons approaches in resemblance that of Miss M., *only in their ineffectual resistance*. In attendant circumstances theirs differ very much from hers, in being far more true to ordinary nature.

It is unfortunate that Mrs. T., the witness first examined in regard to the conversation at the tea table, was not allowed to give her own account of the private interview in which the glimmering suspicions were first brought to light, and perchance reduced to ultimate development. Leading questions are so apt, in spite of best intentions, to form the staple of such revelations; and subsequent impressions and suggestions are hence so liable to be mixed up with genuine facts, that it behooves us, as medical advisers, to receive with extreme deliberation all evidence of this kind that has passed through the crucible of home. Mothers and guardian matrons may easily take alarm, and by unfounded and hastily indulged complaint involve themselves and their dependent children in endless grief.

On this topic we might refer to numerous authorities, and, if there were room for it, would be glad, in illustration of our position and its grave importance, to quote from a late admirable paper by Mr. Wilde, of Dublin, in which five cases of “alleged felonious assaults” on children affected with vaginal discharge, recently tried in Dublin, are thoroughly discussed. (*Med. News and Libr.*, 1853, Nos. 130, 131, 132, *from Lond. Med. Times and Gaz.*, Sept. 10, 1853.) Beck,

(*Med. Jurisp.*, 1, 159,) is remarkably full on this point, as he is in everything else of interest.

It does not appear that Mrs. T. either made or proposed any kind of local inspection. The most superficial examination of the injured parts and of the linen would have been invaluable at that early date. A regular professional investigation might have been conclusive. It was not too late, at any time before the trial, to ascertain the fact of a healthy and unimpaired integrity of the vulval region, altogether incompatible with the idea of the painful connection sworn to by the plaintiff. It is hard to conceive of such painful penetration, without the consequent production of a certain amount of physical injury and alteration and temporary soreness, that might have been distinctly recognized within the first three days, if not at a later period.

Much change or permanent structural alteration, we admit, is not invariably to be expected from a single, and more or less imperfect act ; but objections of this kind are negative only, and too conjectural to justify omission of a test so generally available, often so positive, and always so obviously important to all concerned.

If there be any local or constitutional peculiarity that would be likely to diminish the value of the usual signs, such peculiarity can be better ascertained and estimated through an exploration than without it. The presence of the menstrual flow would, of course, embarrass such an exploration, and render it more unpleasant to patient and physician ; but it would not necessarily destroy its value. An examination at any time, in an inquiry that concerns the possible condition of a part, is certainly better than none at all. Nor is there any positive experience to show that the effect of ether is to relax the vagina, fourchette, hymen, or any tissue but the muscular, except, perhaps, under the peculiar influence of child-birth. The hypothesis of relaxation of the sexual region in a virgin, or at least in the particular individual concerned, might be easily tested by making the desired inspection, while she was subjected to the influence of the supposed relaxing medium ; she would thus be spared much of the distress inseparable from the exposure, while the conditions would certainly afford the best criteria for ascertaining the requisite truth. In a word, if the parts had become dilated and relaxed under the menstrual flux, an examination would have proved this to a demonstration. So, also, with the ether ; if that agent had produced a relaxation at the menstrual period, its administration would have had the same effect again. We have not hitherto suggested the possibility of partial penetration only, of vulval violation, because such half-way action could not have brought

about the pain, upon which the whole accusation hinges. For the same reason we attach little weight to the idea of relaxation. Either supposition but disposes of one horn of the dilemma, and ought rather to favor the defendant than the plaintiff. The third cardinal rule of Beck, in these investigations, avers that "a speedy examination of the parts is all important in disputed cases." (*Op. Cit.* 1, 163.) He directs, too, that the body of the male also should be inspected, and that the male organ should be examined for obvious purposes of comparison. These are the rules of all authoritative medical jurists of the present day. They should be insisted on as absolute under all circumstances and contingencies; and the neglect of their observance ought always to be regarded as a radical injury to the cause of true justice.

Not less indispensable to the right understanding of doubtful cases, is the corroboration to be derived from an examination of the stains upon the back and front portions of the chemise, of blood, of serous oozing, and of spermatic fluid. We do not pretend that the inquiry would be easy or conclusive in the present case, but it might have been so, and no one can prove the contrary. The sole evidence on this point is the mother's, and she swears only to an unusual amount of the customary monthly flow, just what the ether might produce. Instead of being hurried to the wash tub, that linen should have been put under formal seal, and carefully subjected to the usual chemical and microscopical investigations. (See *Devergie Méd. Lég.* 1, 143.)

Where the direct testimony is so exceedingly imperfect in its form, and where the only material part of it is so strongly suspected of unsoundness, every jot and tittle of corroborative evidence should have been religiously accumulated and preserved. Yet there is none to show—nothing but a poor apology for emptiness. There was a lion in the way of an examination—the old romance about the rudimentary hymen; the bugbear of its destruction by disease, by accidental rupture, by foreign bodies; its presence in some pregnant women, its absence in some virgins.

Conditions of barely possible occurrence, anomalous if not apocryphal, are dragged forth to mystify deductions based on the popular experience of ages, and upon the soundest medical authority. "*Il ne faut pas voir en Médecine légale, la virginité morale mais bien la virginité matérielle. . . . 1, Si la membrane hymen existe, la défloration n'a pas eu lieu; 2, Si elle n'existe pas, la défloration a dans les neuf cent quatre-vingt-dix-neuf centièmes des cas été opérée.* (*Devergie, Méd. Lég.* 1, 135.) If the hymen is not in its place defloration has been

effected in nine hundred and ninety-nine cases of a thousand. So says one of the highest authorities in medical jurisprudence.

These speculative difficulties, were they listened to, would paralyze all progress. They only increase the necessity for stricter observation. They might embarrass the defence, but could not strengthen the prosecution. Further special reference on this and kindred topics might interest some readers, but the patience of many others, like our own and the already liberal space allowed us in these pages, must be by this time so nearly gone, that we may content ourselves with pointing to the books before us. We have now on our table the admirable works of Beck, Guy, Taylor, Divergie, Briand and Bayard, as well as some others of inferior note; and we have consulted still others which are not in our possession, but no useful purpose can be served by a parade of erudition, while ample authorities are, or ought to be, within the reach of every medical reader. With Beck, Taylor and Guy at his hand, the careful practitioner of this country may easily prepare himself to meet most ordinary cases, and may be enabled to clear up many painful misapprehensions, and save more than one family from hopeless anguish and disgrace. It is not long since we were consulted by the mother in a case of suspected connexion with a child of ten years, in which an innocent man had been implicated, and would have been dangerously involved, but for the accident that brought the child before a surgeon. If the attention of our readers should be properly awakened to the study of these questions, and to the fact of their continued frequency and scarcely less frequent want of just foundation, the object of this paper will be gained. It was the remark of Prof. Amos, years ago, says Taylor, that for one real rape tried in the circuits there were, on the average, twelve pretended cases! The good old rule in murder is fearfully reversed in rape; ten unoffending men may suffer lest one guilty may escape. Who has not heard how easily the charge is made, and how hard to be repelled? As it was in the time of Hale, so has it ever been; what was a truism in those hanging days is a proverb now. Such calumny sears all alike; there is none too pure or strong to come within its grasp; it palsies defence; yet few can realize the terror of this truth. Let the reader imagine himself before a court and jury. His professional advisers may whisper that science will protect him, but he knows how often it has proved a broken reed. Friends, Christians and worldly, may gather round to cheer him, but their hope-inspiring accents are lost in the storm of sneers and slang which assails even the habiliments of the wise and good in such a cause. Wherever he may cast his weary eyes he sees the slow and

moving finger too surely pointing out his doom. A few disconnected words, a single positive assertion, however flimsily sustained, however ignorant the witness, may work more certainly upon that motley company than the clearest reasonings of science or the best established abstract truth. Should this fancy overtask our reader's nerves, let him follow the unfortunate to his penitentiary cell, and watch him, as we did years ago, slowly dragging to the grave a wreck of mind and body. We have seen a tottering old man of over sixty, infirm beyond his years, serving out a ten years' sentence on an indictment, which, in his case, was a manifest and foul absurdity. We could recall other less striking instances, and we doubt not, from our experience as officer and visitor of prisons, that few penal establishments of any size are unprovided with their sickening array of similar victims to the Commonwealth's prerogative.

But we are told of insufferable danger threatening alike our daughters and sisters, wives and mothers; a "terrible example" is demanded, and we are asked to immolate a family as a holocaust to their imprudence and our fears! The answer is an easy one; let them not go into the lion's den alone. Let the hydra-headed beast be muzzled; let it be a criminal offence to administer chloroform or ether to any one, except in the presence of a relative or friend of similar sex. Let public opinion, more potent than the laws, enforce this rule on all occasions, and the demon of opportunity is gone for ever.

THE PSYCHICAL EFFECTS OF ETHER INHALATION.

BY MORETON STILLE, M. D.

A very short time after the first announcement of the pain-destroying properties of ether and chloroform, the facility with which it was supposed that these agents might be used for criminal purposes, was strongly urged as an objection to their employment. The rapid and universal adoption of these beneficent means for the annulling of pain, caused these unfavorable auguries to be forgotten; and, fortunately, experience has shown that the objection, although not indeed imaginary, was of but slight importance. It is, indeed, true that persons were said to have been waylaid in the streets or surprised in their houses, and being forcibly compelled to inhale the vapor of chloroform from an unseen hand, were plundered of money and other valuables. But the reality of any such occurrences is more than questionable; the instinctive struggles to resist the inhalation would inevitably defeat the object of the criminal, and expose him to the risk of being recognized.

Dr. Snow, of London, whose thorough familiarity with the phenomena attending the inhalation of chloroform is well known, ridicules these reports, and suggests that they may have had their origin in the misadventures of those whose potations had been too deep for their good. A statute was, however, enacted by Parliament, (14 and 15 Vict. ch. 19, s. 3,) making the use of ether and chloroform a felony, where employed for the purpose of producing insensibility, with intent to commit rape or other felonies. The only instance, as far as we know, of alleged rape under these circumstances, is one which occurred in Paris, but the full details of which are not to be found in any of the journals, the trial having been conducted with closed doors. Two young girls brought a charge of rape against a dentist, alleging that the act had been perpetrated while they were under the influence of ether, and that they were incapable of resisting it. As far as we can discover from the imperfect report of the charge of the presiding judge, no other testimony was offered to the fact but that of the young women; the accused was condemned to six years of hard labor, and damages to the amount 1500 francs. "He retired," it is said, "protesting his innocence."—(*Abeille Médicale*, 1847, p. 331.)

The trial which has been recently concluded in this city, for a similar offence alleged to have been committed by a dentist upon one of his patients, has awakened a warm interest in the community. It is not our purpose to make any direct allusion to this trial; nor to offer an opinion upon the testimony brought forward to sustain the accusation. Our remarks, although suggested by this painful event, have a wider scope, and are intended to bear upon the general medico-legal question of the value of evidence given by an etherized patient of what has occurred during the period of etherization. It is certainly of the highest importance, that a question involving both the honor of the woman and the liberty, good name and fortune of the man accused of outraging it, should receive all the light which the manifold researches of physiologists and medical practitioners are capable of throwing upon it. If an accusation of rape is one "easily made and hard to be refuted," this is particularly the case under the circumstances referred to, and it may at any time be successfully made against the purest and best men in the community.

There is a striking analogy between the effects of ether and those of alcohol: the chief difference between them being in the more rapid and complete insensibility produced by the former, and in the more evanescent character of the intoxication. There is a period of excitement, of stupor, and of recovery, and the phenomena observed in

different individuals vary according to their temperament and habits. In general, the stage of excitement in etherized patients is short, and verges rapidly into that of unconsciousness and insensibility to pain. The vapors of ether seem literally to ascend and diffuse themselves through the brain to permeate every portion of the body; the patient has a sense of fullness and warmth, the whole body feels lighter and seems to spurn the earth; the sense of hearing becomes confused, the sight dim and the touch benumbed. External objects lose themselves in a confused mist, which appears to swell their proportions and contort their shape; the muscles become relaxed, and the patient sinks lethargic and unconscious into a profound sleep.

During the transition into the stage of entire insensibility, he responds to external impressions only in an automatic manner; the most painful incisions, if felt at all, seem to him like the marking out of lines upon the skin, and the extraction of deep-seated tumors like the crackling of hair between the fingers. All his movements are instinctive, an expression of suffering is often depicted upon the face, the hands are raised against the operator as he attempts to draw a tooth, and when spoken to, he answers in a vague and dreamy manner. The recovery from this condition, or from a more advanced stage, is apparently sudden, but as in the waking from profound natural sleep, the perceptions are for a few moments confused, even while the person thinks himself fully awake and appears to be so.

Dr. Forbes has well described the *psychical* state under the influence of ether. "Generally speaking," he says, "the sense of external impressions becomes at first confused, then dull, then false, with optical spectra or auditory illusions, general mental confusion and then a state of dreaming or utter oblivion. In the majority of cases, the mind is busy in dreaming, the dreams being generally of an active kind, often agreeable, sometimes the reverse, occasionally most singular; and, frequently, a great deal is transacted in the few short moments of this singular trance. Many of the patients who have undergone the most dreadful operations, such as amputation of one or both thighs or arms, extraction of the stone, excision of bones, extirpation of the mamma, have readily detailed to us, and most with wondering thankfulness, the dreams with which and with which alone, they were occupied during the operations. The character of the dreams seemed to be influenced, as in ordinary cases, by various causes immediate or remote, present or past, relating to events or flowing from temperament." * * * * *

"A good many seemed to fancy themselves on the railway, amid its whirl and noise and smoke; some young men were hunting, others

riding on coaches, the boys were happy at their sports, in the open fields or the filthy lane; the worn Londoner was in his old haunts carousing with his fellows; and our merry friend, Paddy, of the London Hospital, was again at his fair, wielding his shillela in defence of his friends. Others of milder mood, and especially some of the women patients from the country, felt themselves suddenly transported from the great city and the crowded hospital-ward, to their old quiet home in the distant village, happy once more with their mothers and brothers and sisters. As with the dying gladiator of the poet, the thoughts of these poor people—

“Were with their heart, and that was far away.”

Some seemed transported to a less definite, but still happy region, which they vaguely indicated by saying they were in heaven; while others had still odder and warmer visions which need not be particularized.”—(*Brit. & For. Med. Chir. Rev.* April, 1843.) It is with this psychical condition that we have now chiefly to do.

What then is the influence of the inhalation of ether upon the *perceptions*? It undoubtedly cuts off, more or less quickly, the life of relation, and severs us from the external world. The lapse into unconsciousness is gradual but rapid, and does not admit of division into distinct intervals. The sensation of pain is often lost before outward consciousness has become totally obscured. Indeed, instances are related in which the patient has himself looked on as a calm spectator of the painless mutilation of his body. A patient of Prof. Pitha, being put under the influence of chloroform, at once fancied himself in his beloved Italy, and gave full vent to his expressions of delight; he raised himself up during the operation for the liberation of a hernia, and watched it with great interest, answering to questions whether he felt any pain, “*Si io sento l'incisione, ma non sento dolori.*” (*Prager Viertel jahrschrift*, 1848. 3 Bd.) Such cases are rare, and it is important that we should not be misled by this apparent outward consciousness. In the instance just cited, the perception was by no means unperverted; since, although the patient replied correctly when questioned, he imagined himself in a distant country. During an extremely painful operation performed by Velpeau, upon a young girl, she raised herself into a sitting position, as if to observe it. She said afterwards that she supposed herself seated at a dinner table.—(*Rev. Med.* 1847.) In the greater number of cases, however, the perceptions are greatly perverted, illusions being sometimes suggested by the scene actually passing, and at others arising without being prompted by external perceptions. Some cases illustrating this fact, we quote

from the interesting work of Dr. Flagg.—(Ether and Chloroform, &c., by J. F. B. Flagg, M. D. Surgeon Dentist, &c. Philadelphia, Lindsay & Blakiston, 1851.)

After an operation performed upon the forehead of Mr. T——, a dentist of this city, he said that although his eyes were shut, he saw every cut of the knife. “He saw the shape of the wound upon the forehead; and what was better than all, this cutting appeared to him to be done upon somebody else.” A lady dreamed that she was at Cape May, and was going into the surf, and that while in the water, she was attacked by a shark, which held her fast, but without pain, until the company present extracted his teeth and liberated her. A little girl, the extraction of whose tooth made a report like the drawing of a cork, sprang out of the chair “crouched upon the floor, and looked up anxiously at me and inquired if anybody was killed.” She supposed that she was traveling upon a locomotive engine, which had been blown up and thrown her into the air. A boy fancied himself in a cotton mill; an Irishwoman dreamed that she had been home, and seen her friends engaged in spinning, and others dreamed that they were in railway cars or shipwrecked; the dream in some cases being suggested intentionally by the dentist, or being due to accidental noises. A countless number of cases might be adduced to show that patients under the influence of ether, have been completely ignorant of all that has passed around them while in this condition; and have been surprised to find upon their recovery that they have undergone the most severe surgical operations. But this fact is too familiar to need illustration. It is only important to observe that during this state of utter oblivion, the mind is often busily engaged upon its own inward perceptions, which may or may not be pertinent to the actual position of the patient. These perceptions shape themselves into dreams entirely similar to those of natural sleep, being grotesque and improbable, cheerful or painful, according to the temperament, occupation and habitual modes of thought of the individual.

One of the most extraordinary effects of the inhalation of ether, is its effects upon the *emotions*. Thus some persons are seized with the most irrepressible mirth, while others seem to sink under the weight of despondency. Women are especially liable to these effects. Hysterical paroxysms are by no means a rare accompaniment of ether inhalation. In others, the erotic propensities are strangely excited. Siebold relates the case of a woman whom he rendered insensible by ether; upon regaining her consciousness, she appeared to be in a highly excited state, and was loud in her praises of the delightful

condition in which she had been ; her eyes sparkled and a certain erotic excitement was very observable.—(Über die Anwendung der Schwefel—Äther—Dämpfe in der Geburtshülfe, Göttingen, 1847.) Pitha observed excitement of the sexual feelings in two cases, one of a woman and the other of a man upon whom he operated. (Prager vierteljahrsschrift, 1847, Bd. 3.) “In one of the cases observed by M. Dubois, the woman drew an attendant towards her to kiss, as she was lapsing into insensibility, and this woman afterwards confessed to dreaming of coitus with her husband while she lay etherized. In ungravid women, rendered insensible for the performance of surgical operations, erotic gesticulations have occasionally been observed, and in one case, in which enlarged nymphæ were removed, the woman went unconsciously through the movements attendant on the sexual orgasm in the presence of numerous bystanders.” (A Lecture on the utility and safety of the inhalation of Ether in Obstetric Practice, by W. Tyler Smith, M. D., *Lancet*, Mar. 27, 1841,) also in (*Bulletin de l'Academie*, vol. 12, p. 496.) We doubt not that other cases might be brought forward to illustrate this fact, but the paucity of published reports of such a nature, will be readily attributed to the natural unwillingness of patients to disclose painful illusions of this kind, and of physicians to make them known. In further illustration of the disordered condition of the mind under the influence of ether, the following case may be cited. A female rendered insensible by ether, after some unintelligible phrases, related some most circumstantial details of her private life. This involuntary confidence, which might have been followed by serious consequences, had it taken place anywhere but in an hospital, was discovered afterwards to have been perfectly true.—(*Ann. Médico-psycholog.* vol xii. 376.)

In the above observations, it may very plainly be seen that the will no longer exercises its control over the mental operations. The thoughts run headlong upon their accustomed track, or in any direction in which they may have been impelled by fortuitous impressions made upon the nerves of general or special sensation. There is no power to restrain them, and while the dream is a pleasant one, no desire to do so. Often, however, the illusions are painful or disagreeable, and in such cases, the individual may make an effort to escape from or to repel them. Movements under these circumstances, therefore, imply an exercise of the will. This resistance is almost always to illusions proceeding from external impressions. We have already referred to the frequent occurrence of instinctive struggles against the hand of the operator, while the impression, as afterwards related, has been upon

the mind of the patient, that he was playing a part in some very different scene. Thus, the little girl, whose case is before referred to, and who fancied, when her tooth was drawn, that she was blown from a locomotive, *sprang* from her chair upon the floor, while still unconscious.

Another young lady, mentioned by Dr. Flagg, when the forceps was placed upon the tooth, cried out, "stop pulling! stop pulling!" The tooth was nevertheless extracted. "She *rose* from the chair in much excitement, and would have fallen to the floor, but I caught and sustained her for a moment, when the ether instantly passed off." This young lady dreamed that she was in danger of shipwreck, and seeing the rocks and breakers ahead, cried out to the man at the wheel with all her strength to "stop pulling." In another instance, a lady, while under the influence of ether, resisted the attempt to extract her tooth. She *got up* from the chair, seeming much offended, and took her seat in another part of the room. When the effect of the ether passed off, which was in about a minute, she was much astonished at finding herself so remote from the position she occupied when she fell asleep).—*Flagg*, p. 102.)

The following singular instance may be appropriate in this place. A young man having been sufficiently etherized, the dentist prepared to extract a tooth. In a moment he dashed the instrument from his mouth, *left the chair*, and striding about the room, demanded what they meant to do with him. In a few moments the effect of the ether passed off. Being again put under its influence, the same scene was enacted with even greater violence, and he endeavored to jump out of the window. When he regained his memory, he related that he imagined himself surrounded by a great number of enemies, one of whom endeavored to drive a nail into his mouth, and being unable to struggle with them, he had sought safety in flight,—(*Union Med.*, Sept. 1847.)

M. Gerdy, in trying the effect of ether upon himself, with the object of observing closely its successive phenomena, found that with the exception of the vibratory and benumbed sensation which rendered the sense of touch and of pain obtuse, and the noise in the ears which dulled the sense of hearing, his intelligence was clear, his attention active, and his *will* so firm that he willed to walk and he did walk, in order to observe the effect upon his locomotion. He found that his step was only less sure than usual, and was similar to the progression of an intoxicated person.—*Bulletin de l'Academie*, vol. 12, p. 304.)

We have cited these examples, out of many of a similar nature, for the purpose of showing that the power of the will over muscular movement is not entirely abolished in etherization. It is true that the

muscles are speedily relaxed, but they are not paralyzed. The patient may exercise his will or he may not; if he does, it is to escape from danger, real or imaginary, but which has always to him the form of reality. If he does not make any movement, the fact is due either to the pleasurable or trivial character of his mental perceptions, or to the temporary but complete unconsciousness and insensibility in which he is plunged. That advanced stage of etherization in which perfect narcotism is produced, is, in reference to the present question, of considerable importance; for, if the power of resistance is then lost, so also is the consciousness of a real motive for it. To be more explicit, if an outrage be perpetrated upon a woman lying wholly helpless and unconscious, she cannot be aware of the liberties which are being taken with her person, and will not, therefore, make any opposition to them. She cannot, moreover, afterwards describe with elaborate detail the manner and particulars of the assault, and yet have been incapable of withdrawing from or repelling it. If her muscles and her voice have been paralyzed, so also has her outward consciousness.

The recollection of what has passed during this stage of etherization, is wholly confined to the inward mental perceptions, to the dreams which have all the vividness of real occurrences. In the language of Dr. Forbes, "the old story of the magician in the Arabian tales seems more than realized, the ether being like the tub of water, one moment's dip of the head into which produced a life-long vision in the dreamer's mind." It is possible that these dreams may be so vividly impressed upon the mind, that they may have afterwards to the patient all the force of real occurrences, and that he may refuse to believe that they have been merely the disordered perceptions of his own brain. In general, these dreams being of a trivial or of a pleasing character, it is not surprising that the patient should acquiesce in the belief of their unreal nature, but the case is very readily conceivable in which the hallucination may have been so distinct, and at the same time of so repulsive a character, as to leave an indelible impression upon the mind and a conviction of its reality. Authentic published evidence of this fact is indeed wanting, and we purposely forbear, for reasons which cannot fail to be apparent to our readers, to refer to that which is said to have been offered in the recent trial, as well as to that which we possess from private sources.

The following cautious remarks of M. Bayard are not without significance: "If," he says, "in some cases, individuals have rendered an exact report of what has passed around them, or of the liberties which have been taken with them while under the influence of ether and

chloroform, it must not be forgotten that very frequently they have dreams, hallucinations, and illusions which they relate with a conviction of their actual reality. Experts should, therefore, receive with extreme circumspection declarations made before them under these circumstances, and both in their written reports and verbal depositions, should endeavor to enlighten magistrate and jury upon the relative value and credibility of such revelations.”—(*Appréciation médico-légale de l'action de l'éther et du chloroforme. Ann. d'Hygiène, vol. 42, p. 201.*) It appears to us, from what has now been stated, that the following positions may be assumed as correct :

1st. That the consciousness or perception of external objects and impressions is impaired in the early, and lost in the final stage of etherization.

2d. That during the time the mind remains susceptible to external impressions at all, these reach it in a feeble or perverted manner.

3d. That the emotions, and especially those of an erotic character, are excited by the inhalation of ether.

4th. That voluntary muscular movement is not paralyzed until the state of perfect narcotism is produced, at which time, however, all outward consciousness is extinct.

5th. That the memory of what has passed during the state of etherization is either of events wholly unreal, or of real occurrences perverted from their actual nature.

6th. That there is reason to believe that the impressions left by the dreams occasioned by ether, may remain permanently fixed in the memory with all the vividness of real events.

The practical inferences from these positions are too plain to need explanation ; we commend them, therefore, to the reader's meditation.

Dentistry in France.—The Paris correspondent of the New York Daily Times, under date of Nov. 2, 1854, thus writes :—“ The refinements of the dental art are but little understood on the Continent, as you may learn from the following remark, made by a teacher of languages, upon noticing a filling in a pupil's tooth : ‘ Why, he's gilt the outside, hasn't he ? ’ She supposed the inside was lead. Natural enough, too, for the very word which signifies to fill, *plomber*, means to plumb. Therefore, until the Americans sent out Brewster, Evans, Fowler, and Horner, dentists held the rank of plumbers. Fowler is just beginning, the youngest man of them all, and the latest from America, where all the improvements are made. He has every chance of immediate and sustained success.”

THE DENTAL NEWS LETTER.

JANUARY, 1855.

A Very Interesting Case—The Value of Atmospheric Pressure Plates.—Two years since, a young lady about twenty years of age, and of a very nervous temperament, but apparently in good health, broke out both superior front incisor teeth, in the following singular manner. She retired as usual, but from some unknown cause, she either awoke suddenly in a frightful dream, or in a nervous paroxysm, and precipitated herself out of bed over the foot board of the bedstead, and either striking her teeth against the top of the board, or falling with her face on the floor, met with the injury above described. All the upper teeth of this patient were sound and beautiful, and how to supply, successfully, the place of the lost teeth, without the usual injury to the adjoining ones, was a matter of the greatest importance. We constructed an operation with Gilbert's central cavity, and it has been worn with perfect comfort up to this time. The operation answers every purpose in the functions of mastication and enunciation. If this accident had happened a few years ago, the teeth, in all probability, would have been filed apart and bands applied, and before this time several more teeth would have been added.

A case of similar character occurred to a young lady, about ten years ago. She lost, by accident, the left superior front incisor tooth. She applied to one of the most eminent dentists of our city, who attached the operation to the first bicuspid; in a short time, these became so much decayed as to make it necessary to remove the bands to the second; and in due course of time they also became badly decayed, when the bands were removed to the first molars—these also became affected. She applied to us to have them plugged. We advised her to try the central cavity plate, which was adopted; there has no fresh decay taken place in those teeth since. The case is worn with entire satisfaction.

We could cite a great number of cases of this order, where the central cavity has been of great value to the patient; and we think that the dental profession is very largely indebted to the inventor, for bringing it so fully before the profession; and it is also a matter of surprise, that it is not more generally employed by dentists, for supplying partial sets of teeth.

J. D. W.

Popular Errors.—There is, perhaps, no error more popular and more hurtful than that of the premature extraction of the deciduous teeth. With many, their being loose from the absorption of their fangs in the process of the development of the permanent teeth, is sufficient reason for their removal.

The public generally entertain these views ; but they are not alone at fault in the matter, as many in the medical profession endorse and recommend this most pernicious practice.

We have been induced to make a few remarks on this subject, from hearing a public lecturer—a medically educated man—lecturing on popular medical subjects, in exhibiting to his audience a head in which the permanent teeth were shown in their process of development, following closely upon the fangs of the deciduous teeth, and in teaching that the first, or *milk* teeth, should have been extracted to give place to the permanent teeth, and that if such a course were not followed, we would find the permanent teeth making their appearance very crooked and irregular from want of room.

This was only strengthening the erroneous views entertained by nine-tenths of the heads of families among his audience.

In this connection, we may state that a gentleman, an acquaintance of ours, went to a manufacture to buy a pair of forceps for the purpose of extracting the loose teeth in the mouths of his children, and when told he had better let nature perform the work, replied that he had always been in the habit of extracting them, and that such a custom was general in his country, (England.)

The educated dental practitioner well knows the great amount of harm occasioned by this practice, by having continually to treat irregularities produced by it ; but they cannot correct the narrow contracted mouths, elongated chins, and other such like deformities which are seen daily.

That the great mass of the public should so believe, is bad enough ; but that members of the medical profession, whose influence is so great, should inculcate such views, is truly deplorable. If proper reflection were given the subject, it would be seen that the due expansion of the jaws are mainly dependent upon permitting the first teeth to maintain their places until displaced by the second, and that, therefore, the less they are meddled with, the more certainty of a well developed jaw, and of consequence, of a regular set of teeth.

Nature rarely requires assistance in this process of change, and she almost invariably works effectually.

We cannot think any practitioner of dentistry would be guilty of

such intermeddling, unless in some pressing emergency, such as sloughing of the gums, exfoliation of the processes, or caries of the socket, or too great a deviation of the permanent teeth from their proper place. Under other circumstances, their extraction would be inexcusable, as in all probability it would result in permanent harm.

Let us hope the subject may receive the attention its importance demands, by which some good will be done. J. R. M'C.

Human Teeth.—A treatise with the following title, which will be of some considerable interest to dentists, is lying upon our table :—"The Anatomy, Physiology and Pathology of the Human Teeth ; with the most approved methods of Treatment, including operations, and the method of making and setting Artificial Teeth ; with thirty plates. By Paul B. Goddard, M. D., &c., aided in the practical part by Joseph E. Parker, Dentist." It is from the publishing house of S. S. & W. Wood, 261 Pearl street, New York, who maintain a high reputation for good taste in the style and finish of their works. Besides being a quarto of ample dimensions, the illustrations are both numerous and truthful, and add exceedingly to the value of a production of this kind, as descriptions of the parts concerned are better understood when the eye has something to rest upon."

[In the absence of the publication above noticed, we are disposed to think it is a second edition of a work published in Philadelphia in 1844, bearing the same title, and with which the profession generally are familiar.—J. R. M'C.]

A Curious Case.—We were called upon to set three front teeth, for a large and middle aged lady, two years since. We made the operation in the usual way, attaching the case to adjoining teeth. They were worn with comfort for more than a year, when the lady called and informed us that the operation had done her great injury. When the teeth were set she weighed two hundred and sixty pounds, but now she only weighed about one hundred and eighty ; although her health did not seem to have been impaired, still she believed that the teeth had been the cause of the loss of flesh. The first set were put upon eighteen karat gold, and she believed that a galvanic action was produced by every thing she eat ; consequently, if the operation were done with pure gold, she would regain her health—or flesh. We accordingly put up an operation on gold as pure as we could make it, which she has worn for some time, but as yet there is no observable increase of her weight.

J. D. W.

A Dictionary of Medical Terminology, Dental Surgery and the Collateral Sciences, by C. A. Harris, M. D. D., D. S.—*Second Edition, carefully revised and enlarged*—Philadelphia, Lindsay & Blakiston, 1855.—The dental profession are all doubtless familiar with the first edition of this work. A second edition has been called for, and the author takes the occasion to make such additions and alterations as greatly enhance its value.

In the preface, we are told “the present edition contains about eight thousand more words than the first. The introduction of these, without very greatly increasing its size, which the author was anxious to avoid, rendered it necessary to rewrite and compress the heavier and more elaborate articles into much narrower limits than were originally assigned to them, and to strike out the bibliographical and biographical departments altogether, &c.”

This will render the work, we are sure, more acceptable to the medical, as well as dental profession. It is a valuable book, and one that cannot be dispensed with in any dental library. It is gotten up in the usual handsome style of the publishers.

J. R. M'C.

OBITUARY.

M. K. Bridges, Doctor of Dental Surgery, died at Brooklyn, on Wednesday, October 25th, aged 55. He was distinguished as eminent in his profession of dentistry, and had endeared himself to a large circle of friends by his moral worth as a citizen.

The above notice we find in a Brooklyn newspaper, and we add that we never met a man of better impulses or kinder feelings than Dr. Bridges. His death will be seriously felt and deplored throughout a very large circle of professional acquaintances.

We have to announce, also, the decease of Dr. James Parry, of York, Pa., who died on 30th of September last, of consumption, aged 45 years.

The subject of this notice, with many eccentricities, possessed a kind heart and an open hand. He enjoyed the reputation of a superior operator, and those of his professional brethren who knew him, will testify to his ability and companionable qualities.

It is a little singular; but this, we believe, is the first death among the members of the Pennsylvania Association of Dental Surgeons since its organization in 1845. We presume the association will take some action in the matter.

J. R. M'C.

"Facts for the People."—This is a very neatly gotten up work, in which the various topics of our profession are ably treated by the author, T. D. Thompson, D. D. S., of Providence, R. I., graduate of the Baltimore College of Dental Surgery. While we do not approve of medical works for the people by which they may become after a fashion their own doctors, we do approve of dental works, as they cannot become their own dentists after any fashion, but are stimulated to employ intelligent dentists in time, and to attend to properly cleansing their teeth, which must eventuate in great good. We recommend this work to the profession as well as to the public. J. D. W.

New Portable Lathe.—We have seen the working of a new apparatus for grinding and polishing, and cannot but esteem it one of the most useful appliances for the workshop of the dentist, we have ever seen. It combines a remarkably easy movement with rapidity and efficiency, and free from all noise ; it is neat, portable, and quite moderate in price. For full description, see cover.

"Mr. Borland, the Foreign Minister, whose diplomatic history is connected with the destruction of Greytown, is represented to have quietly returned to the practice of dentistry."

We find the above in a medical journal. It is news to us, and will be to most of our readers.

We hope a good dentist was not spoilt in making a Consul.

J. R. M'C.

The Practical Dentist.—This is the title of a small but neat paper published, and ably edited, by Frank Fuller, dentist, Portsmouth, N. H.

It contains much matter of interest, original and selected—plain and practical—and is well calculated to impart information of the right kind to the public.

J. R. M'C.

Dr. Ambrose Lawrence, dentist, has just been elected Mayor of Lowell, Mass.

As an old acquaintance, we congratulate him on this proof of the public regard and confidence, and trust he may give as complete satisfaction as Mayor, as he did as a dentist.

J. R. M'C.

M. CL. BERNARD ON THE PHYSIOLOGY OF ABSORPTION AND OF RESPIRATION.

[Continued from page 60.]

What are the phenomena of absorption—by what mechanism is it effected? They are about the same in all substances, but in some they are more simple than in others. Imbibition, a phenomenon entirely physical, is essential. We must know that if a substance be not imbibed by an organ, it cannot be absorbed. This happens in the oils; for though animal membranes generally absorb aqueous substances, they do not the oily. This has necessitated a preparation of the fats, and for this purpose there is an organ in the animal economy. Again, the current of imbibition must take place more in one direction than in another; for, evidently, without that there would be no movement. It is these phenomena, above all, that depend upon the nature of liquids, upon endosmose.

These two, imbibition and endosmose, are not sufficient; there must be transport. This is active, depending upon the circulation; the other two are physical and are accomplished as well in the dead as in the living, provided the substance be not changed. However, on this point it is necessary to be very careful; for, take a tube, place it so as to be perfectly horizontal, and put some water in each end. The water will come together; yet here there is nothing vital, nothing active. This phenomenon is called diffusion. Again, the diffusion is not the same for all substances. Put on one side a solution of sulphate of iron, and on the other one of prussiate of potash; they will meet together, but the blue will not be found in the centre of the tube; one has marched quicker than the other. This is very important; for, wishing to determine the rapidity of the circulation, from their experiments, some men have decided that the whole circulation was accomplished in thirty seconds. But, had they taken other substances, they would have had a different result for each one. The phenomenon of diffusion must, then, be considered, besides that of transport. If, into the stomach of a dog, prussiate of potash be introduced, and he be killed ten minutes after, that substance will be found all over the canal, from the mouth to the anus. What can you admit here? Surely not that the peristaltic movements have transported it everywhere, for the aliments have not been chased. It is a phenomenon of diffusion, and takes place just as well in the dead as in the living animal. Again, put some in the mouth—you can find it in the œsophagus, so that finding some there is no sign of its having been swallowed.

M. Bernard commenced with absorption in the cellular tissue, for there its study is most easy, most simple ; for it is freed from the element coming from the epithelium. These absorptions under the skin, or under the epidermis—for it is the same thing—are generally the result of accident, following scratches, wounds, &c. The epidermis is taken away very often, to cause the absorption of medicaments. These substances are absorbed with greater or less rapidity, but the rule is that absorption takes place here with very great rapidity. Experiments have been made to ascertain at what time, after the inoculation of the poison of the glanders, of the rot, &c., the ablation of the part frees the animal from danger. In some of them, conducted at Alfort, it was found that, at the end of an hour, the poison of the glanders had been absorbed. Others are absorbed much more rapidly ; as, for instance, the rot (*la clavellee*) ; the destruction of the part five minutes after the inoculation was too late. For *la rage*, the time is not known. All these poisons are without any effect when introduced into the intestinal tube.

Can all soluble substances be absorbed in the cellular tissue ? No, as can very easily be shown. The experiment performed by M. Bernard was the introduction under the skin, in distant parts of the body, of two substances, one, the lactate of iron, the other the cyanuret of potassium. Where the iron had been deposited, a Prussian blue was found, and only there in the whole body—showing that while the cyanuret had been absorbed and taken into the circulation, that the lactate had not been disturbed. Again, upon taking the membrane of an animal, and placing it between those two solutions, the same thing happened. The blue was formed on one side, and not on the other ; the prussiate of potash was alone imbibed. There is, indeed, a double exchange ; the water in which the ferruginous salt is in solution passing, but the salt itself does *not*. It will be seen, then, that an iron salt must never be employed by the endermic method, for it will never enter the blood. The old law, “all soluble bodies are absorbed,” is not true. The above experiment settles the question.

Other circumstances can make absorption vary, above all the rapidity of the absorption. The concentration of the liquid has a great effect. Having introduced the same quantities of sugar, but dissolved in different quantities of water, it might be expected *à priori* that the more diluted would be the first absorbed, for the quantity is the same, spread over a larger surface. Just the contrary takes place. You can make a *gramme* of sugar pass in five minutes, or in three or four hours, just as its solution is concentrated. This shows how precise it is neces-

sary to be in making experiments, and when you are as precise as in chemistry and physics, their results are equally precise.

Besides the modification arising from concentration, there is another from facility of imbibition. This is very readily shown by placing a dried membrane between different solutions. In such a case, between the chloride of sodium and the sulphate of soda, there is a difference of double. If these two substances be placed under the skin, the chloride will be absorbed far more quickly than the other.

Can physical bodies, mingled together, re-act on each other—for instance, will those two bodies just mentioned be imbibed exactly as when *separate*? They always act for themselves, acting exactly as if alone. They act just as they do separately, if there be no combination, be it understood; one cannot *draw* the other. And this is very important; for it might be supposed then, when strychnine and opium, an excitant and sedative, are administered together, a neutralization would result. This is never the case; each preserves its properties intact.

Two liquids placed in contact have a tendency to mix together. This property of diffusion is possessed by some liquids to a much greater degree than by others; and the difference exists with or without an intervening membrane. A small instrument, consisting of a tube of glass, whose ends are bent upwards at right angles, is used to measure this property. The greater part of the horizontal portion being filled with distilled water, the liquids to be tested are poured into the upright extremities. M. Bernard made use of the two substances before made use of, and also of solutions of nitrate of silver, and of chloride of sodium. The chloride of sodium has a greater property of diffusion than the nitrate of silver. Those substances that march most rapidly thus, do the same when membranes are interposed, and also in the living animal. For these experiments, an instrument composed of a flask, with a bottle of animal membrane suspended in another much larger, and both covered by a globe to prevent evaporation, has been used. The central flask containing 12 grs. of dry chloride of sodium, and the larger one holding distilled water—at the end of forty-eight hours not a particle of salt was in the former, but it contained 60 grs. of water. The chloride of sodium was replaced by the same quantity of dry, crystalized sulphate of soda; at the end of ninety-six hours all had gone, and it was replaced by 120 grs. of water—twice as much as in the other case, but twice as much time was necessary. There are some substances, as prussiac acid and nicotina, that escape with wonderful rapidity. These bodies, in the torrent of

the circulation, go faster than the current of the blood. An experiment with this instrument shows most evidently the truth of what was advanced above, that when two substances are mingled, the one does not draw along the other. The common salt and the sulphate of soda being placed in the flask together, at the end of forty-eight hours the former was all gone, and one-half of the latter was remaining. The membrane used here was a pericardium. Wishing to apply these facts, M. Bernard thought to see if a different effect would be produced on a living animal. He mingled salt and sugar, thinking that perhaps the latter would be more rapidly absorbed. At first he supposed such to be the fact, and finding sugar in the urine much quicker in such cases, concluded that it had been drawn along. Mixing strychnine with sugar, he thought that perhaps the animal would die less quickly; but he always died in the five minutes, whether the strychnine was alone, or with salt, or with sugar. But why did salt always draw along the sugar, and it alone? It is because of the chemical change that occurs when these two bodies are mingled—a combination, known perfectly well by chemists, but which he had not thought of. It was not sugar that had been absorbed, but the new body formed. In such experiments, care must always be taken not to have a chemical mixture. In therapeutics this is very important; for if such a mixture do not occur, the bodies will act separately.

Influence of endosmosis on the phenomenon of absorption. In endosmosis there are always two currents, two movements—endosmosis and exosmosis—only there is an inequality. In the living animal we have the phenomenon of exosmosis, without the other; the equivalent endosmosis does not exist. M. Bernard, under the skin of one rabbit introduced a solution of common salt, and under that of a second one, sulphate of soda. The animal uttered cries of pain when the salt was injected, as it always does; for this substance has the property of exciting the nerves in a peculiar manner—it never occurs from the introduction of sulphate of soda. These liquids were not replaced by any blood; all was absorbed; and in their place nothing appeared. Why is this double current not observed? Is the cause special to living animals? This cause should not be sought for first in the vitality; it should first be sought for in chemical or physical phenomena—for vitality means we know nothing about it. It depends on the movement of the blood, and on its composition. As soon as the solution has passed, it combines, chemically, with substances in the blood, and the current carries it away. Endosmose is but a tendency to equilibrium; here it cannot be, for ever there is new blood. The *sortie*

takes place, but far away in special organs, the lungs, the kidneys, &c. Some practical deductions can be drawn from this. It has been supposed that saline purgatives acted by the water passing from the blood ; but place some in a portion of intestine, separated from the rest of the tube by ligatures. In some cases, nothing whatever is produced, and all the salt is absorbed ; in others you do find some liquid, but that shows nothing ; for, without the medicament, the inflammation and irritation produce that. Injected into the jugular vein, a salt purges better than when swallowed ; and in some countries, for the sake of economy, horses are thus purged. Absorption, then, is simple imbibition, and endosmosis, as understood, is not applicable.

Absorption is diminished or increased by a change in the pressure of the air. When an individual is in compressed air, all the liquids of his body tend to go into the interior ; in the contrary condition they go towards the periphery. Now, as absorption takes place even from the periphery towards the centre, in compressed air, absorption should be more rapid, and rarified air should act in a contrary manner. Many experiments show that absorption is less active when the atmospheric pressure is diminished ; thus, it has been said, that after the application of a poison, that the absorption is prevented by the immediate application of a cupping glass. Liebig has made an experiment, entirely physical, to show the effect of compression. He took a curved tube, one end of which was covered by a membrane, and having introduced some water, poured mercury into the other extremity. The weight of the metal caused the imbibition to be far more rapid. Prussiate of potash, placed on one side of the diaphragm of a living animal, appeared on the other in forty minutes. When a galvanic current was made to pass, it appeared in seven ; a compress, imbibed with iodide of potassium, was placed on one arm, and on the other, one dipped in a solution of starch ; a current of galvanism being passed through the body, in ten minutes the compresses became blue. This latter experiment, M. Bernard said he had not repeated, and that it appeared to him very extraordinary.

As to the influence of the abstraction of blood upon absorption, Magendie has made many experiments, and these are the results. When a poison was administered to an animal, after having been bled, he always died quicker. When the contrary was done, blood being transfused, he died more slowly. It was judged, that in the one case, absorption was quickened, and in the other retarded. Evidently, this can be, for we enter into the conditions, just discussed, of greater or less pressure ; but it ought to require more poison to destroy an animal

with more blood, than another. The same quantity of poison that destroyed one animal, will not kill a larger one ; the poison must be, in a certain proportion, in the blood, and at the same moment. A large quantity can be given, little by little, and it passes away, without destroying life. Ten grains of prussiate of potash in one hundred of water, will kill an animal ; diminish the quantity of blood, he dies sooner ; increase it, he does not die at all. In this case, the substance was injected into a vein, so that absorption had nothing to do with the result. When you bleed, you make the animal more susceptible to the poison ; you make him smaller at the same that you vary the atmospheric pressure.

In absorption, there are a certain number of mucous membranes to study ; and, above all, that of the abdominal intestine. It is certain that in them we have the double current ; we have the excretion, the going out of a liquid ; and this excretion, or secretion, must be studied. This *going out* is not allied in a mathematical manner to the phenomenon we have observed in a membrane. In the cellular tissue, absorption is simply imbibition ; here in the mucous membrane we have the vascular membrane as before, and moreover, we have small cells in great number around the vessel, and in immediate contact with it. What difference is there between absorption and excretion ? First, the current is directly contrary, and that is a great thing. Glands consists of numbers of cells, surrounded by ramifying vessels ; between the cells and vessels there is no direct communication, only juxtaposition. The mechanism of secretion has been much discussed. If it be imbibition, why is the current inverse to what it always is in imbibition ? A theory very old, developed by Haller, is, that it is owing to the interior pressure exerted by the blood. This is disproved by the following experiment of Ludwig. In the salivary duct he placed a tube, to which he attached a barometer, or curved tube of mercury, to measure pressure. In the artery going to the gland he placed a corresponding tube or barometer. He then stimulated the gland by exciting the nerve, and made thus, as his barometers showed, a greater pressure in the duct than in the artery ; still the secretion continued. It is not right, however, to generalize too much from this experiment made on the salivary glands ; for in the kidneys, when you diminish the pressure of the blood, you diminish the flow of urine.

If the secretions of the mouth be examined, they are found to be very different from those in the intestines. The salivary glands produce liquids very dissimilar ; that of the parotid is clear and limpid, that of the sub-lingual is very viscous, and that of the sub-maxillary is

between the two. The parotid is influenced, above all, by mastication, the sub-lingual by deglutition, and the sub-maxillary by gustation.

Now, relating to the excretion of particular substances. When in the blood certain substances are introduced, that can circulate without danger to life, we find them in different secretions. There must be a difference in the glands, although anatomists cannot show any, between a cell of the pancreas and one of the parotid. The salivary glands eliminate some bodies and leave others. If iodide of potassium be introduced into the body, by the cellular tissue, or the stomach, or by a vein, in about one second it is found in the salivary glands. The slightest trace of iodine is thus eliminated. If, on the contrary, prussiate of potash be introduced and sought for, it is never found there ; it passes through them. Sugar never is excreted by the glands, and there is no analogy between it and the prussiate of potash ; it has more with the iodide. Again, if you inject lactate of iron into the blood, and much may be injected without harm, and then draw away the saliva, you will not find a trace of it in that secretion. Now take two substances, of which one passes and the other does not, as in the iodide of iron—what will happen ?—will the iodine make the other pass, or will the iron keep it in ?—or will the gland decompose it and send out the one, holding in the other ? The iodine is the stronger, and the iron goes out with it, drawn in its train. Thus in experiment, as for example, to see if mercury passes, we must see with what it is combined ; for while as corrosive sublimate it may not, combined with iodine it may. No substance is eliminated with such facility by the glands as iodine ; and although the products of the salivary glands are very different, yet there is no difference in the elimination of that substance. Every substance has its special organ of elimination.

The mucous membrane of the mouth and that of the glands, is not continuous ; it is said to be continued into the duct ; but absorption is twenty times more rapid in the duct than in the mouth. Because the glands have for their special object the expulsion of certain bodies, it must not be supposed that they cannot absorb, for they do absorb, and very rapidly. M. Bernard introduced into the parotid of a dog a tube, and into his jugular vein injected together iodide of potassium, prussiate of potash, and sugar. Of these three substances, thrown in at the same time, the first was the only one that appeared in the fluid issuing from the tube. While absorption then allows all to pass, and takes place in the ducts of glands as well as in the cellular tissue, excretion is confined to particular organs for particular substances. When sugar is injected, none is ever found in the saliva. It has been

said to be found there in cases of diabetes, but it never is when the saliva is pure; it is owing to its being mixed with the mucous from the lungs, &c.

(To be continued.)

VOCAL GYMNASTICS.

No truth is better established, than that certain parts and organs of the body, are greatly improved and strengthened by proper and suitable exercise. Perhaps this is true of every part, but more particularly of those portions which are subject to the control of the will. Certainly the organs of speech do not form an exception, nor do the respiratory organs generally, as is supposed by many. We once met with an intelligent physician, who declared that he had derived great benefit from playing the flute, although the practice had been positively interdicted by his medical advisers, on account of a strong hereditary predisposition to pulmonary disease. And we have frequently met with persons laboring under throat disease—pharyngitis, and even laryngitis—of a chronic character, who had been benefited by a daily use of the voice in speaking and singing. These exercises must, of course, be practiced in moderation and with judgment; but it is not desirable to confine them to low tones. Trousseau has made some judicious remarks on this subject. He learned from Romish priests, that the low tones of the confessional fatigue the larynx more than loud preaching. He practices his patients by reading slowly and aloud, five or six times a day, taking care to make very full inspirations, and then to emit several sounds in succession without entirely exhausting the air, always avoiding very high notes, which are fatiguing. Larochelle directed singers who had lost their voices, to take as deep an inspiration as possible, and then suddenly, and in as little time as possible, to emit a short shrill note, expelling all the air which they had inspired. Persons who had lost their voices for years, are said to have recovered under this treatment in a fortnight. In cases of active inflammation or ulceration, these affections are, of course, first to be cured.

Experience in our own person confirms these views of the influence of vocal exercise. Having relieved a chronic pharyngitis of twenty-five years' standing, by the local application of Lugol's solution of iodine, after every other means had failed, we have found the powers of voice to be improved by lecturing, and by reading aloud; but it has appeared to us to be essential to enunciate from deep in the throat, using the larynx and glottis as much as possible, in preference to the palate and tongue, and avoiding nasal sounds.—*Memphis Medical Recorder.*

Case of Diseased Alveola. By FRANCIS CAMERON, M. D., Springfield, C. W.—What I conceive to be a rather rare case of disease, and one interesting to the profession, occurred in my practice some years ago. Daniel Young, aged about 70 years, consulted my medical preceptor for a disease (as he called it) of the roots of his teeth. The doctor, finding it likely to prove tedious, committed it to my charge to manage under his advice. Our patient stated that he first experienced a soreness at the roots of one or two of his upper molar teeth, which shortly after became quite loose, and concurrently with the supervention of the dental looseness, a purulent discharge set in from the gums around them. The affected teeth were removed, a feat which was very easily performed, and a lotion of myrrh and borax applied to the affected gums. After the separation and removal of the diseased alveolar processes, the soft parts under this application soon healed. No, sooner, however, had one place healed, than the disease broke out in another. It thus spread from tooth to tooth, in both jaws, until all the teeth were lost and their sockets destroyed. After this he got well, and lived for several years in comfortable health. Perhaps some of the readers of the Chronicle would inquire, had he taken mercurials previously? I believe not, as his health was good for a long time before. The entire period that the disease took to travel round his masticatories, and disappear, was three weeks.—*Med. Chron., Montreal, Canada.*

CURE FOR THE TOOTH-ACHE.

As Peter sat on a marble stone,
 By came our Saviour all alone;
 "O, Peter," he says, "what makes you shake?"
 "O, Lord and Saviour, it is the tooth-ache."
 "Arise up, Peter, and follow me,
 And for thy faith thee healed shall be;
 And he that wears these lines, for my sake,
 Shall never be troubled with the tooth-ache."

The above is a correct copy of a "charm" worn by a person *twenty years*, but it unfortunately did not prevent his having the tooth-ache; yet he thinks it mitigated the pain very materially.

THE DENTAL NEWS LETTER.

VOL. VIII.

PHILADELPHIA, APRIL, 1855.

No. 3.

For the Dental News Letter.

A NEW METHOD OF USING GOLD FOIL.

BY PROF. ARTHUR.

Some few months since a short article on "Sponge Gold," written by me, was published in the "News Letter." It was simply intended for the purpose of doing my part in calling the attention of the profession to it as a desirable improvement, and to express my confidence in it as a reliable material for filling teeth. I did not pretend to go at any length into the subject, but made some simple general statements, promising to prepare a detailed account, at some future time, of methods of using it which had enabled me to employ it with success. I had very soon found, after beginning to use the "sponge gold," that it could not be relied upon if the directions by which it had been accompanied, when sold, were followed; and I was not at all surprised that disappointment in the expected result occurred as a consequence of its use in this way. Heavy demands upon my time, however, have prevented me from preparing such an article as I intended, and it will now be rendered unnecessary, I presume, by a publication in preparation by Messrs. Watts & Co., of which I have seen a part of the proof-sheets. I have, indeed, within a short time past, fallen upon a new field of experiment, and find that by using gold foil in a way somewhat differing from that in which it is ordinarily used, it can be worked precisely like "sponge" or "crystallized" gold.

I have never regarded gold foil, as ordinarily used, as a perfect article for the purpose intended. There are very few members of our profession, I presume, who are not aware of its defects. That it has answered the purpose of filling teeth better than any substance brought before the profession, until lately, I am well aware, but still it has always been my desire, as I know it has been that of many others in the profession, to find something free from its defects.

It is well known that no adhesion takes place between the layers of gold foil, as ordinarily used, and the retention of the whole mass of a filling depends upon the form of the cavity, or upon the

lateral force it is made to exert upon the walls. The manner in which most good operators proceed to fill a cavity with foil, no matter how they may prepare it, is to begin at one side and condense the filling toward that side, making sure to allow some of the gold to extend above the mouth of the cavity, far enough to make it level with it after it is condensed at the surface and properly burnished.

Now, it is impossible, if the filling is well condensed, to add more gold directly to the surface. The layers of foil, as ordinarily used, will not adhere to that portion which is previously condensed. It becomes necessary, in such case, to remove the whole filling, or to cut away so much of it, if it be large enough, as to furnish a reliable hold for the additional gold. This is a defect in foil for which I have always been anxious to find a remedy.

I found, by experiment some few years ago, that by using heavy numbers of gold, a result might be obtained approximating, at least, what was desired in this way. I proposed to employ No. 30 gold foil, with sharp pointed instruments, as I found that by forcing the single strip of heavy gold into contact with portions previously introduced into the cavity, a kind of union between the different portions might be effected. In this way I found myself enabled to add strip after strip of gold to a filling, until I had accomplished the object in view. I made use of this form of gold foil, in this way for nearly two years, exclusively, and only abandoned it in consequence of the difficulty of keeping myself supplied with suitable instruments, which it is impossible to have properly made by an instrument maker. The points required are necessarily very hard, and easily broken. Still I accomplished with this form of gold all I expected from it, and abandoned its use for the reason stated alone. It is not improbable that gold in this form may still be found desirable, if used as I am about to propose.

I again went back to gold foil as I had formerly used it, and employed it in this way until my attention was called to the article introduced to the profession under the name of "sponge gold." The first I used was made by White, of Utica, and it at once struck me as being a most desirable improvement, in many respects, upon gold foil. A specimen of Watts & Co.'s gold was then put into my hands by the inventor, and I found it free from the objection of great friability, one of the most defective features of White's preparation. It was a beautiful specimen of this material, and I have never since found any which in all respects satisfied me so well. I took hold of the new form of gold eagerly, and soon found that by using it (very differently, however, from the manner described) I could obtain better results in my

operations than I had ever been able to reach before. I used the "sponge gold" with greater satisfaction, for more than a year, than any other material I had ever taken hold of. I have seen my operations repeatedly, and at long periods of time, after they have been performed, and I have never in a single instance observed any change in its appearance or consistency, except when from unfavorable circumstances the operation was imperfectly performed. I feel no hesitation therefore in saying that the confidence I have expressed in it, in the article alluded to, I still retain.

But "sponge gold" has unquestionably, with all its advantages, its own defects, which have interfered with and must prevent its general adoption. Its friability leads, in many cases, to more or less waste. As far as my own experience goes, it is exceedingly difficult to work, if it gets at all wet during the performance of an operation, and it certainly consumes more time to perform reliable operations with it, in the great majority of cases, than gold foil. Still its advantages, with all these defects, as I have said, were so great in bringing about desirable results, that I have been willing to devote the additional time for the sake of making more perfect operations when completed. If these difficulties can be overcome, and an article found free from the defects of "sponge gold," which can be worked in the same way as this material, that is, if adhesion can be obtained between the portions placed in a cavity, a further advance unquestionably is made.

In making some experiments for the purpose of testing the relative solidity, when condensed in a cavity, of gold foil and "sponge gold," I found the foil may be made to work in precisely the same way as the sponge gold, and as perfect adhesion obtained between the different portions of gold put into a cavity as with this material. Nothing more is necessary than to cut the sheets of the ordinary numbers of foil into two or three pieces, roll up very loosely, and hold it in the flame of a spirit lamp until it reaches a red heat. It will at once be found to have become so adhesive that, with small and sharply serrated instruments, it may be made to adhere as readily as the best specimens of "sponge gold." It is necessary, however, when gold foil is used in this way, that it should be cut into small portions, for the very adhesiveness which it acquires when treated as I have proposed, prevents it from working well if an attempt is made to use it in the ordinary manner.

The instruments which I have found best adapted to the use of gold in this way, are small flattened pluggers, with two sharp points cut at the end, and made so hard that they will not turn. The gold may be

picked up with such instruments, carried to the desired place, and condensed precisely as "sponge gold." It is well to go over each piece added, with a single sharp point.

Although I have been making use of gold foil in this way for only about a month, I am exceedingly gratified at the results I have obtained, and am urged to call attention to it.

It seems very strange that so desirable an improvement as this should have been in our hands for so long a time, and yet not discovered. I presume many operators have attempted to restore gold foil, which had become impaired, by reheating it. I did so myself years ago, but found that the very adhesiveness it acquired by this process, interfered seriously with its use in the ordinary way.

I have felt it necessary to make this long statement in order to protect myself against the charge of vacillation, as I have at various times earnestly advocated several different methods of filling teeth. My strong desire has always been to improve, for my own benefit and that of others, the methods of performing the operations of our profession. I always have been, and always shall be, ready to take hold of any new thing which promises advantages, and to test it as thoroughly as I am capable of doing. I have not changed my ground in relation to any of the forms of gold I have advised to be used. Each has certainly the advantages, which I attributed to them. I do not now take the ground that I have been mistaken in my expressed views of "sponge gold;" I still regard it as perfectly reliable, when properly used. But for ordinary use, I am convinced that gold in the form I am now recommending it, is a decided improvement upon any method of using gold, hitherto known. Whether it will be regarded as superior to "sponge gold," in the hands of those who have successfully used this material, is a question which time and trial can alone decide.

I have no idea that gold will be used generally in the manner I now recommend. It is exceedingly difficult to induce men to change a course which they have successfully pursued for years, and the difficulties of which they have learned to encounter and overcome, for any new thing. And, even if they are disposed to make trial of a new process, it is often so imperfect a trial, that it is unsatisfactory. With regard to the matter in hand, simple as it is, I confidently say to every operator in the profession, that if fairly tried it will afford advantages in the use of gold foil of which few have dreamed.

I may say that the foil of different manufacturers present a remarkable difference in regard to this quality of adhesiveness. It is certainly advisable to try several kinds, if that in hand does not work

well. The profession may rely upon the full truth of the statements I have made. I have never, in the course of a practice of fifteen years, made use of any material for filling teeth which has so fully satisfied me as foil used in the manner I have described.

For the Dental News Letter.

AWARDS AT THE WORLD'S FAIR.

MESSRS. EDITORS—*Gentlemen*:—In your April number for 1854, Doctor E. Parmly, while giving an account of the proceedings of the Committee on Dentistry, at the Exhibition of the Industry of all Nations in New York, made what I considered a very unfair, ungentlemanly and untruthful attack upon me. In replying to that attack, I took issue with him upon seven different points, assertions, or explanations which he had made, and explained each exactly as I then believed, and now believe, the truth and *the whole truth* justified me in explaining and elucidating them.

The first assertion, which I denied, was that I told Trenor and Parmly that I “saw Ambler making the very pieces now ascertained to have been made by D. H. Porter.” In the presence of these gentlemen, I distinctly heard Ambler say, “Gentlemen, we claim nothing for the teeth.” Some of these, it seems, were made by D. H. Porter; but Ambler & Avery only asked award “for what they made with their own hands,” and for improvements. Some of the pieces on exhibition I recognized as those which I had seen Ambler at work upon, and so told Drs. Trenor and Parmly, and this is all I told them.

The second assertion of E. Parmly, which I denied, was that when we parted, after examining the articles of dentistry on exhibition, “we were unanimous on every other case,” (except Ambler & Avery’s,) and I deny it now; notwithstanding I did not see fit to protest against the decision of the majority, which was against me, yet I gave my own opinion on each case, and did not change it.

The third accusation is that I violated the confidence reposed in me as one of the committee, after I had “twice requested that all that had been said in committee should be considered strictly confidential.” This I have denied, and explained fully. I did, in answer to an inquiry, make known the fact that the committee disagreed, and this any juror, even on a capital offence, has a right to do and does do; but, at the same time, I gave my colleagues credit for acting as their consciences dictated. The instructions under which we acted said, “It is the intention of the commissioners to reward excellence, in whatever form it is presented,” &c., I therefore felt that I was doing

my duty by recommending all superior workmanship for an award ; not so much "to help other dentists," as to render a just and impartial tribute to the *dental art*, when brought into competition with other arts.

The fourth assertion of E. Parnly, which I noticed in my reply, was that I "immediately rejected" his proposition to ascertain who made the work exhibited in Ambler & Avery's case. I have explained that I did not substantially reject this proposition ; but proposed, as an amendment, that we should first inquire of the commissioners whether it was a part of our duty to ascertain this, or whether the awards, as I believed, were to be made to the exhibitors. I was determined to act justly, as far as I knew how, in accordance with our instructions and the rules of the exhibition.

The fifth assertion, which I denied, was that "it was proposed by Prof. Renwick that the whole (*i. e.* the two reports) should be referred to the Committee on Surgical Instruments." In opposition to this, I affirm that both reports were referred to Prof. Renwick, with permission to consult with the Surgical Committee. The following is an extract from Prof. Renwick's letter on this subject, the whole of which is published in the Dental Recorder for October, 1854 :

"When it was urged upon me, in my capacity of chairman and reporter of Jury F, that I should take it upon myself to decide the points on which the Committee on Dentistry was not agreed, I finally and reluctantly assented, on the condition that I should be at liberty to consult the *members* of the Committee on Surgical Instruments ; that at the moment when this permission was awarded, Dr. Carnochan entered the room, upon which I said : 'Here is one of them, and I will place the papers in his hands.' To the best of my recollection, the committee instantly rose, and I believe that no other words on the subject passed between Dr. Carnochan and myself in the presence of the committee."

The following letter is also published, in Prof. Renwick's reply to Dr. Trenor, in the N. Y. Medical Gazette for June, 1854 :

"MINERAL DEPARTMENT, }
CRYSTAL PALACE, April 22, 1854. }

"*Dear Sir* :—In reply to your letter as to what took place at a certain meeting of the members of Jury F, I have the following statement to make :

"I perfectly recollect the meeting you mention, at which two reports were presented. I also recollect that only three members of the jury were present, one of whom appeared to present the minority

report, the other two the majority. Both parties seemed to urge their respective opinions for adoption, strenuously, and you (as it seemed to me at the time) were placed in a very awkward position. One of the members proposed that a general meeting of the jury should be called to decide the matter. You spoke of the difficulty of getting the members together, which I confirmed, having written several times calling general and special meetings, at which only two or three attended. One of the gentlemen then proposed that the matter should be left in your hands; you declined; and, when again requested, said that if you were allowed to consult the sub-Jury on Surgical Instruments, you would consent to act. With that understanding the meeting was breaking up, when one of the members of the sub-Committee on Surgical Instruments came into the room. You said 'here is one of them,' and upon your explaining to him what had taken place, you both went up to the Department of Dentistry, and commenced your examination—at least such was my impression; and that is all I recollect, for I had much to do, and my attention was directed to many other matters at the time you refer to.

"I am, dear sir, yours faithfully,

"JOHN P. RICHARDSON,

"*Secretary of Jury F, pro tem.*

"PROF. JAMES RENWICK."

This proof, I think, is sufficient to settle this point, unless Dr. Parmly can show that these gentlemen, as well as myself, have "a commodating and expansive consciences."

The sixth assertion of E. Parmly, which I have also denied, is that I "would give a medal of high distinction to Ambler & Avery for *merely* exhibiting the work of D. H. Porter, or any body else." In opposition to this assertion I have published my report in your journal, in which I did not recommend a medal of either *high* or *low* distinction, but only an "Honorable Mention."

The seventh, and last assertion of Dr. P., which I saw fit to deny, was that "at our first meeting we decided to award to Jones, White & McCurdy, and Chas. Abbey & Sons silver medals; and to Reynolds of Philadelphia, and Kingsley of New York, bronze medals."

The Circular of Instructions, under which we acted, expressly stated that silver medals were only to be given "as an award for discovery, invention or improvement of very great value," and I do not recollect to have heard Dr. Parmly claim this, or propose a silver medal for any thing in the dental line in the Crystal Palace.

I have thus enumerated the points upon which Doctor Parmly and

myself disagree, and set them clearly before your readers, in order that they may not be blinded by the dust which he has attempted to raise, and the dirt which he has thrown at me in your last number. It will be borne in mind that he first attacked me, and that I endeavored to defend myself by denying the accusations which he brought against me, and furnishing some important truth for the elucidation of the subject, which he had left out. I therefore had a right to expect that if he saw fit to continue the subject, he would produce some proof to sustain his charges, in accordance with the well-known rule of law and common sense, that—"He who asserts the *affirmative* is bound to prove it, and not he who avers the *negative*." Has he done so? Not a particle of proof do we find in his last article—except the extract from Dr. Trenor's article in the "Medical Gazette," and the note from Dr. Carnochan, against which I now place the testimony of Prof. Renwick and Mr. Richardson—but, in place of it, a gross personal attack upon me, with an attempt at intimidation, by insinuating that I am personally dishonest.

While this controversy was confined to the part which I took in the affairs of the Crystal Palace, I felt bound to defend myself from any aspersions upon my official conduct there, but when it descends to an ungenerous, unchristian, and uncalled for attack upon my character, my life is the only reply which I have to make, and to those who have known me as a man and a dentist for the past twenty-five years, I confidently commend my character, not fearing to trust my reputation with them. Neither shall I attempt to defend either Prof. Renwick or Dr. Ambler, who have also come in for a liberal share of Dr. Parmly's abuse, as the latter has sought his remedy in a suit at law, and the former is abundantly able to defend himself if he deems the game worth the ammunition.

Very respectfully,

CHARLES C. ALLEN.

For the Dental News Letter.

ON PATENTS AND THEIR INFLUENCES.

MESSRS. EDITORS:—The advancement of every branch of science is commensurate with the amount of talent enlisted in its favor, and the liberality with which the effects of such talent are eliminated.

Those branches of learning that, by their rapid advancement, have astonished mankind, even in this progressive age, owe their unequalled success to the generous diffusion of individual knowledge, with the

entire absence of selfish motives. A liberality of sentiment is beneficial in a two-fold sense. It gives to mankind the advantages of combined professional knowledge, and raises the standard of excellence.

My attention has been directed to this subject, from the numerous "patented" principles coming so frequently under our inspection, in the vast majority of cases of so little importance, that, if added to the experience of practice without the undue excitement attending their advent, would seldom attract our notice.

In dental hygiene, the branch most indebted for its rapid advancement to liberality of thought and expression, we perceive their effects by the amount of varied information, ramifying throughout the profession in every portion of the globe. The humblest member has ready access to the thoughts and suggestions of those better informed, and possessing the availability of more extensive practice. The ardent student, when difficulties are encountered, meets with ready aid in his standard works, and their more progressive compeers—the periodicals.

A glance at the other department presents a striking contrast. At every step we meet with improvement, but, alas! so beset with restrictions, and so weighed down with the apparent importance of the invention, that the liberal investigator, becoming disgusted with such motives in a profession, that should, "owing to its confined limit of practice, be the more diffuse in its publications," casts the matter aside, that otherwise might tend to his special advantage and the general good of his associates.

In another point of view, injurious effects may be the consequence. The inventor himself, by attaching considerable importance to his idea, and by promulgating that idea, to the entire absence of all other improvements, as is too often the case, restricts the energies of his mind, and overlooks many important adjuncts to his professional experience. His influence is mainly directed to the acquisition of notoriety for his special object; and the members of the profession, with whom he may come in contact, are constantly besieged upon the one subject, to the exclusion of the liberality of sentiment, and interchange of thought upon all subjects, which so eminently adorn the members of our sister professions.

May we not hope, that before many years have elapsed, the portals of dental knowledge shall stand open, and the pathway of progress be unobstructed.

Yours,

ORIS.

Philadelphia, Jan. 29, 1855.

THE SPRINGING OF PLATES IN SOLDERING.

BY W. CALVERT, D. D. S.

Much has already been said through the medium of our various dental journals and elsewhere, upon this important and interesting subject—*i. e.* the springing of plates in soldering. And, notwithstanding all that has been said, the various opinions that have from time to time been advanced respecting this matter, nothing has as yet appeared, that was sufficiently authenticated to afford a safe and reliable *preventive* to this trying and vexatious matter.

The way in which this change is to be effectually obviated, is and ever has been to the dental profession a matter of deep interest, and demands of us investigation, in order that the application of proper means shall be made to secure right ends.

Now, the reason that plates spring in soldering, is unquestionably owing to the unequal expansibility of the materials constituting the case—comprising the metal, or plate and solder, the teeth, and the investment of plaster and sand. In all of these do we find different degrees of expansibility when exposed to the same heat, and unless they offer to each other, in a certain sense, an equal amount of resistance, there must result a change. As, for instance, in a case invested in plaster and sand, the combination of which would not expand and contract equally with the plate, upon being exposed to a heat requisite for soldering. The teeth, also, not expanding as much as the plate—being held together by the investment—are united by the stays to the plate, and in cooling, the unequal contraction of these different materials, prevent the plate from assuming its original form, and the result is a crooked or warped plate.

It has been, and I believe is yet contended, that in soldering, when the stays are made continuous, or even when the stays are isolated, but where the solder unite upon the surface of the plate, there *will be* a change in the plate—owing to the different contractibility of the plate and the solder. But this, I argue, is not necessarily so, for they act mechanically (that is by their resistance) towards each other. The one offering the greater resistance overbalancing the law governing the other. In the union of the stays to each other and to the plate, there can no change take place, unless there be an undue amount of solder thrown upon the plate—sufficient to overcome the resistance offered by it. On the contrary, (supposing that no *dentist*, now a days, would *heap* solder upon his operations,) the plate so resists the contraction of the solder, that it suspends, as it were, the particles of the metal, or,

in other words, holds it extended ; just as would be a piece of plate heated to redness, and while hot (and of course expanded) each end were suddenly and securely held. It now cools, and in consequence of the plate offering less resistance than is offered by the force applied at the ends of the plate, the cohesive attraction of the particles of the metal is overcome and the plate becomes permanently extended.

Now, a very easy and simple method (and one that I have satisfactorily tried) to ascertain whether a plate will spring except when an investment is thrown around it, is to strike up a plate in precisely the same manner as if teeth were to be mounted upon it, and after having it so prepared, after the swaging is completed, carefully anneal it ; then prepare and fit a rim, or a number of pieces of stay plate, and solder upon the palatine surface of the plate, inside the alveolar ridge, occupying the same position that the stays of teeth should, and if ordinary care be taken, no change will take place. In order to satisfactorily prove this, it is only necessary after the swaging of the plate is completed, and before soldering on the rim or stays, to pour plaster into the plate, so as to obtain a correct cast, and after the soldering has been completed, replace the plate upon the cast, when it will at once be evident if any change has taken place.

Although there may be, and doubtless are, certain conditions which if not properly complied with, will increase the liability, if they do not absolutely produce the very thing we so much wish to avoid. Nevertheless, if what I have already attempted to set forth, be correct, the great *primary* cause of the springing of plates is owing to the combination of plaster and sand in the investment, or rather, I should say, to the excess of plaster.

Now, if a case of teeth were to be invested in something, equal in expansion and contraction with the plate, and be exposed to a requisite heat for soldering, it would be found that the teeth would be separated proportionably exactly with the expansion of the plate, the investment expanding equally. The teeth being here united by the stays to the plate, the case is left to cool ; and in cooling the contraction being equal to the expansion, the teeth are brought back again by the investment and plate equally to just the position they left, and the result is that the plate resumes exactly its original form, or, *is not* sprung. But if the expansion of the plate should be greater than that of the investment, the teeth would (if not held close together) not be separated proportionately with the expansion of the plate, so that after the soldering, as the case cools, the teeth would come together before the contraction of the plate was completed, and offering a greater

amount of resistance than the plate was capable of equalizing or overcoming, would cause *it* to yield or spring.

I have already endeavored to indicate that the springing of plates is not due to the solder used in uniting the stays to each other and to the plate, and I have also attempted to show that it is almost wholly due to the investment, or at least, that the investment, or plaster and sand, is the *primary* cause of almost all the trouble.

I presume there are scarcely (I was about to say) two individuals that have adopted *any rule* by which to be governed in the use of these materials for investment, and the reason generally assigned is, that it is a matter of no importance, inasmuch as the excess of sand was merely a prevention to the cracking of the plaster. True, it is, that it does so act, and no less true is it, that it does more than this, as I trust I shall be presently able to show.

Let us now inquire into the relative expansion and contraction of the different materials which we have already been considering.

Both silver and gold, when heated to a degree sufficient to flow their respective solders, expand almost the same—the expansion of silver being about $\frac{1.7}{400}$ of an inch in three inches, and that of gold about $\frac{1.5}{400}$ of an inch in the same length.

Porcelain, or the material ordinarily used in the manufacture of teeth, expands but little over one-half as much as either silver or gold, the expansion being about $\frac{8}{400}$ of an inch in three inches.

Plaster alone, when exposed to heat, does not expand, or rather, I should say, by subjecting a piece of plaster of a given length, say three inches, to a heat sufficient for soldering, is found to contract one-twentieth of an inch, and in cooling contracts one-twentieth more, making a total contraction of one-tenth of an inch in three inches. When combined with sand in equal parts by measure, or by weight, one and a half ($1\frac{1}{2}$) ounces of plaster, and the three ounces of sand, and exposed to a heat equal with the above, contracts about $\frac{3}{100}$ of an inch in three inches, and expands only half that much.

When mixed in the proportion of four ounces of sand and one ounce of plaster it expands about $\frac{1.5}{400}$ of an inch, and contracts $\frac{1.6}{400}$ of an inch in three inches. When a still greater excess of sand is added, four ounces of sand to three-fourths of an ounce of plaster, the expansion and contraction are equal, expanding about $\frac{1.6}{400}$ of an inch in three inches. And when still more sand is added, the mean of several experiments, four ounces of sand and half an ounce of plaster is about $\frac{1.7\frac{1}{3}}{400}$ of an inch in three inches.

From the foregoing it would appear that the two last mentioned combinations of sand and plaster, compare favorably in expansion and contraction with silver and gold, and are therefore well suited for an investment—as also, a *prevention to the springing of plates*.

I have hinted that there were certain conditions to be met, aside from the investment already considered, in order to secure the most desirable results. I allude to the preparation of the plate, and properly heating up the case previous to the application of the flame of the blow-pipe to solder.

It is not only necessary that a plate should be frequently annealed during the preparation or swaging, but it is equally requisite that it should be thoroughly annealed *after the swaging* has been completed.

The plate having been thus thoroughly annealed, and the teeth properly adjusted to it, the case is ready to be placed in sand and plaster, and a very convenient way of doing this, is to have provided several open rings so as to be readily adapted to the shape and size of different cases. These may be made of tin or other plates, and about an inch in height, except that part of the ring intended to be posterior to the teeth and plate; it should be curved, not being more than about a quarter of an inch high in the middle. One of these rings sufficiently large being placed upon a flat surface, the sand and plaster may be mixed, and a portion of it placed in the ring and the plate bedded in it, allowing the cutting edges of the teeth to sink a little below the top of the ring. The space between the teeth and the ring may now be filled up as desired.

After the teeth have been backed, and the solder applied to the different parts to be united, the ring which has served to protect the sand and plaster may now be removed, and the case being dried is ready to solder.

For the purpose of heating up cases before soldering, it is best to be provided with a small sheet iron furnace, five or six inches high and about as much in diameter. Placing a live coal in the furnace, fill up even with the top or very nearly so with small pieces of charcoal. On the top of this lay the case to be heated, after which, place other pieces of charcoal around the outside of the case, in order that the heat shall be equally diffused over the whole case, then place it where there will be a good draught, and in a few minutes the entire case will be sufficiently hot to complete the soldering with the blow-pipe.

Since I have been in the habit of treating my operations as already described, I can in truth say, that I have not had the difficulties with which I previously had to contend, but, on the contrary, have had the

most satisfactory results. And now, in conclusion, let me further add, that if the foregoing indications be strictly observed, there will be (shall I say it?) *no more springing of plates in soldering.*

For the Dental News Letter.

MESSRS. EDITORS:—Perhaps the following extract, from “Heister’s Institutions of Surgery,” a rare volume, printed in London in 1753, might not be uninteresting to your readers. As an illustration of the condition of Dental Surgery in the middle of the last century, it certainly seems worthy of preservation. If it prove acceptable, perhaps others may be sent in due time.

A. M. HOOKER.

Bristol, Ct., Dec. 15, 1854.

EXTRACT.

Of Hollow and Decayed Teeth.—Those teeth which are hollow and decayed are usually carious, and admit some parts of the food into their cavities, which by degrees putrify, become acrimonious, and not only further destroy the teeth themselves, but also irritate the internal periosteum and small nerves of this bone, so as to excite intolerable pain, to prevent which various methods have been contrived. The first is to cleanse the cavity of the tooth with a needle, tooth-pick, or some other convenient instrument, and then fill up the space with white wax or mastic, as often as you shall see occasion; by which means the teeth will be preserved from foulness and further decay. When the caries is but superficial, it may be frequently removed by the rasp, but when the disorder is in the larger grinding teeth, especially in their middle, it will be best to fill them as exactly as possible with a bit of lead or gold, by means of the instruments, tab. xx., fig. 20, 21. [The points of these instruments are not very unlike some of those used at the present day.] But when the caries has reached the root of the tooth, so as to excite intense pain, the patient may be relieved by filling the tooth with *ol. caryoph. cinam., vel lign., guiac., &c.*, and if these do not prove strong enough, it may be convenient to cauterize the tooth with a red hot instrument, for this purpose inserted into its cavity, by which practice you will free the patient instantly of his pain, without giving him any great additional torture, provided you do not burn any of the adjacent parts of the mouth. Those teeth which are thus cauterized, being never afterwards troubled with pain, should have their cavities filled with lead or gold as before; and if this last method proves ineffectual, or if the cavity can not be filled with wax, and lead or gold, there then remains but one remedy, which is to extract the tooth and replace it again, as we shall presently teach.

Heister’s Surgery, 5th ed., p. 458.

For the Dental News Letter.

ALARMING CASE OF HEMORRHAGE FROM THE EXTRACTION
OF A TOOTH.

I. D. KILBOURNE, D. D. S.

Mr. Chaplin, of this town, aged about twenty-five, of lymphatic temperament, came under the care of my partner (Dr. E. H. Kilbourne) and myself, January 20, 1854.

Mr. C. had the right second superior molaris extracted by Dr. Hoyt of this place, January 18th. A small portion of the alveolus on the palatine surface was adherent to and removed with the tooth. The bleeding at the time was no more profuse than is usual on such occasions, but continued until night, when the patient went to Dr. H. and he applied some common astringent. This had no effect; the bleeding continued all night, and in the morning Dr. H. was sent for, the patient being somewhat weakened by the loss of blood, and he again applied some simple astringent, with no better success. No benefit having resulted from the course pursued thus far, two physicians (Drs. Bancroft and Newell) were sent for. They, after examining the case, recommended Mr. C. to send for us. He did so. We found the patient quite low from loss of blood; extremities cold; pulse feeble, down to forty. We immediately made a compress of the scrapings of sole leather, tannin and kreosote mixed together, and plugged the cavity. In this way we stopped it for five days, when it broke out again with renewed vigor. Another compress was applied of the same ingredients, an extra quantity of tannin being added, capped with beeswax. It remained until February 3d, when it burst out again with increased violence, and bled so profusely that in a very short time the patient, being so weak, was obliged to take his bed. His family and friends were by this time very much alarmed, and began to despair of his life. In this emergency a consultation was held with Drs. B. and N., and as a last resort in the way of mechanical remedies, it was deemed advisable to make use of the actual cautery. (Argentum nitras had been tried, but with no beneficial result.) This we did the same day (assisted by Drs. B. and N.) very thoroughly. It then remained quiet until 10 o'clock the next evening, when it sloughed some, and the blood started out at every pulsation of the heart, in a stream as large as a knitting-needle. We again cauterized it and applied another compress of beeswax simply; this was kept in its place by a tin cap, which extended up on to the palatine arch for some distance. In this way we again succeeded in arresting the hemorrhage.

His blood was of a weak, watery consistency, with little or no disposition to coagulate; and in view of this fact it was thought best to administer some medicine, in order to bring it into a more healthy state. Accordingly a preparation of the following was exhibited:

R. Brandy, Oss.
Cayenne,
Pulv. Cinnam.
â â ÷ss.

One large spoonful every two or three hours.

Subsequently the cayenne was omitted and quina substituted. This treatment, together with the compress (which was changed every two or three days) was persisted in for a number of days, when the part again sloughed, and healthy granulations were formed. Thus, by unwearied exertion in the use of mechanical and medicinal means, we were gratified to see the patient gradually recovering from a hemorrhage that had well nigh proved fatal.

St. Johnsbury, Vt., January 12, 1855.

For the Dental News Letter

PROTRACTED DENTITION.

MESSRS. EDITORS:—The following case of protracted dentition, I extract from my note book, deeming it may be of interest to some of your many readers.

Mina Mondegal, a German girl of medium size, twenty-four years old, called some time since to have a cavity filled in the first molar of the upper maxillary; it had never pained her. On examination, I was surprised to find, in one of her age, a deciduous tooth, perfectly firm in the socket and but slightly decayed. On further examination, I found she still retained all of the temporary set except a lateral incisor of the left superior maxillary, which had been replaced a short time by a finely formed permanent one; a new lateral also had begun to make its appearance on the right side of the same jaw, the temporary one being still in its place, but loose, showing that absorption had commenced. There were no other permanent teeth in the mouth except the anterior molars of the upper and under jaws. She did not recollect when these made their appearance. The jaws were well formed, the teeth not crowded, but had spaces between them; the process was broad and full, indicating that it must contain at the same time both sets of teeth, which I have no doubt was the case.

Yours,

G. F. J. COLBURN.

Newark, N. J.

For the Dental News Letter.

MESSRS. EDITORS:—By your request, I now furnish you with the following brief memoranda of the doings of the Pennsylvania Association of Dental Surgeons, as they may prove interesting to the profession at large; and some good may be accomplished by showing that we are anxious to diffuse all the available knowledge we may possess, and acquire all that may be imparted to us; in fact, that we are successfully striving to establish this high tone of friendly professional intercourse so well pertaining to our beloved calling, and which must, in manifest destiny, place us on a perfect level with our elder sister—the medical profession.

I would here remark, that the accessions to the Association, in number, talent and reputation, are mainly attributable to the fact of our holding monthly or special meetings, besides our four stated meetings at which all the business of the Association is transacted, allowing hardly time for discussion. Our members like to make up for lost time, and we always have good attendance and interesting remarks and discussions, much to the profit of our younger members, who then have an opportunity to express their own views. Those members of the Association who caused this new order of things to become developed, have reason to feel proud of the usefulness of the Institution which they so much cherish.

Very respectfully, tout-à-vous,

CHAS. A. DU BOUCHET, *Secretary.*

PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS hold four Stated Meetings annually, to wit:

1st annual Stated Meeting on the first Tuesday in October.

2d “ “ “ “ December.

3d “ “ “ “ February.

4th “ “ “ “ April.

Besides the above, a special monthly meeting is held on the third Tuesday of every month, except July and August.

The initiation fee for active members is five dollars, to be paid on or before signing the Constitution. The annual contribution for members residing within the limits of the City and County of Philadelphia is *two dollars*, and for members residing beyond those limits *one dollar*.

The initiation fee for junior members is *two dollars*; and when eligible for active membership, they receive the certificate of the Society by paying an additional *three dollars*.

At the annual meeting of the Pennsylvania Association of Dental Surgeons, held on Tuesday evening, October 3d, 1854, the following officers were elected to serve for the ensuing year :

President—Daniel Neall, D. D. S. ; *Vice President*—Elisha Townsend, M. D., D. D. S. ; *Recording Secretary*—Chas. A. Du Bouchet, M. D., D. D. S. ; *Treasurer*—F. Reinstein, D. D. S. ; *Librarian*—James M. Harris, M. D., D. D. S. ; *Examining Committee*—Edward Townsend, D. D. S., J. H. M'Quillen, M. D., D. D. S., Chas. A. Du Bouchet, M. D., D. D. S., Wm. Fouché, D. D. S., David Roberts, D. D. S.

Among other subjects of importance disposed of at this meeting, the following Code of Ethics, previously discussed, was adopted and ordered to be printed for distribution.

CHAPTER I.—OF THE DUTIES OF DENTISTS TO THEIR PATIENTS, AND OF THE OBLIGATIONS OF PATIENTS TO THEIR DENTIST.

ARTICLE I.—DUTIES OF DENTISTS TO THEIR PATIENTS.—*Sect. 1.*
A Dentist should not only be ever ready to keep his professional engagements, but his mind ought always to be imbued with the importance of his function, and the responsibility he habitually incurs in its discharge. These obligations are the more deep and enduring, because there is no tribunal, other than his own conscience, to adjudge penalties for his carelessness or negligence. Dentists should therefore be scrupulously loyal to their trust, reflecting that the ease, health, and no inconsiderable share of the happiness of those committed to their charge, depend on their skill, attention and fidelity. They should study also, in their deportment, so to unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence.

Sect. 2. Every case committed to the charge of a Dentist should be treated with attention, steadiness and humanity. Reasonable indulgence should be granted to the mental peculiarities and caprices of his patient. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed ; and the familiar and confidential intercourse to which Dentists are admitted, in their professional relations, should be used with discretion, and the most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional services ; none of the privacies of personal or domestic life, no infirmity of disposition or flaw of character, observed during professional attendance, should ever be divulged by him, except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great, that professional men have, under

certain circumstances, been protected in their observance of secrecy by courts of justice.

Sect. 3. A Dentist ought equally to avoid unfavorable prognostications and boastful promises, because they savor of empiricism, by magnifying the importance of his services in the treatment of the case, and abusing the simple confidence of those who best deserve his sincerity. It is therefore a sacred duty to guard himself carefully in these respects, and to avoid all things, in word, action or manner, which have a tendency to bias the judgment or impose upon the feelings of his patient.

Sect. 4. Consultations should be favored in difficult and doubtful cases, as they give rise to confidence, energy and more enlarged views of practice, and eminently tend to liberalize the professional relations of practitioners.

Sect. 5. Hygienic counsel within the proper province of the Dentist, concerning as it does those personal habits which are so prevalent and so offensive in the social life of our country, should be urged the more earnestly as rules of health, for the reason that they promote the minor morals of the patient. Advice, strictly professional, is never impertinent, and is generally authoritative and acceptable in proportion to its respectful boldness.

ARTICLE II.—OBLIGATIONS OF PATIENTS TO DENTISTS.—*Sect. 1.* The members of the Dental profession, upon whom is enjoined the performance of duties so important as theirs are to the community, and from whom are required the devotion of their best efforts for the welfare of those who require their services, have a right to expect that their patients should entertain a just sense of their reciprocal obligations.

Sect. 2. The first duty of a patient is to select, as his Dentist, one who has received a regular professional education. In no trade or occupation do men rely upon the skill of an untaught artist; and in dental surgery, confessedly one of the most difficult and intricate of the arts, the world ought not to suppose that knowledge is intuitive.

Sect. 3. Patients should prefer a Dentist whose habits of life are regular, and who is not devoted to company, pleasure, or to any pursuit incompatible with his professional studies and duties. A patient should also confide the care of himself and family, as much as possible to one Dentist, for a practitioner who has become acquainted with their peculiarities of constitution, is more likely to be successful in his practice than one who does not possess such knowledge. A patient should apply for advice in the early stage of disease, and in what may

appear to him trivial cases, that the remedial treatment may be completely successful; and as incipient diseases of the dental system are open to very early detection by proficient in the science, so protective and preventive treatment is even more certain and available, than in any other branch of remedial medicine, and should be the more carefully secured.

Sect. 4. The obedience of a patient to the prescriptions of his Dentist, should be prompt and implicit. He should never permit his own crude opinions to influence his attention to them, or to excuse his negligence. Preventive and remedial measures are based upon physiological principles, whose agency is not always in apparent correspondence with the means employed to make them available.

Sect. 5. Patients should always, when practicable, call upon their Dentist within the hours appropriated to consultation; they should keep their appointments with rigid punctuality; and they should respect his necessary times of refreshment, recreation and repose. A full practice is so laborious and exhausting, and interference with engagements so injurious, that a careful consideration for them, ranks among the highest duties of the patient to the practitioner.

Sect. 6. The unfavorable criticisms of friends and physicians, upon the operations of the dentist, ought to be submitted to him for his consideration and explanation, before they are allowed any decisive influence upon the mind or conduct of the patient.

CHAPTER II.

ARTICLE I.—DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.—*Sect. 1.* Every individual, on entering the profession, as he becomes thereby entitled to its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness. He should, therefore, observe strictly such laws as are instituted for the government of its members; should avoid all contumelious and sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science, he should entertain a due respect for his seniors, who have by their labors brought it to the advanced condition in which he finds it.

Sect. 2. It is considered derogatory to the dignity of the profession to resort to public announcements, or private cards or handbills, inviting the attention of the public to particular methods of treatment; publicly to offer gratuitous advice, or to promise radical or extraordinary cures; or to publish cases and operations in the public newspapers, or suffer such publications to be made; to adduce certificates

of skill and success, or to boast of cures and remedies. These are the ordinary practices of empirics, and are highly reprehensible in a regular dentist.

ARTICLE II.—PROFESSIONAL SERVICES OF DENTISTS TO EACH OTHER.—Dental practitioners, their wives and children, have no just claim upon other practitioners for gratuitous services. They may be accorded, for such reasons as arise out of the relation and condition of the parties as individuals, but from the nature of such services they cannot properly be demanded as a comity of the profession.

ARTICLE III.—OF THE DUTIES OF DENTISTS IN REGARD TO CONSULTATION.—*Sect. 1.* A regular dental education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of the profession. Nevertheless, no intelligent regular practitioner, who is of good moral and professional standing in the place in which he resides, should be fastidiously excluded from professional fellowship, nor should his aid be refused in consultation, when it is desired by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation, who, in his practice, rejects the accumulated experience of the profession, and the aids furnished by anatomy, physiology, pathology and organic chemistry.

Sect. 2. In consultation, no rivalry or jealousy should be indulged; candor, probity, and all due respect should be exercised towards the dentist having charge of the case.

Sect. 3. A dentist who is called upon to consult, should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance: the practice of the latter, if necessary, should be justified as far as it can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him, or affect his reputation. The consulting dentist should also carefully refrain from any of those extraordinary attentions or assiduities, which are too often practiced by the dishonest, for the base purpose of gaining applause or ingratiating themselves into the favor of families and individuals.

Sect. 4. When a dentist is consulted by a patient of another practitioner, in consequence of the absence or sickness of the latter, he ought to limit his interference to the necessary treatment demanded by the case; and when it has been only incidental, and not requiring his own continued attention, on return or recovery of the regular attendant, with the consent of the patient, he ought to surrender the case.

The following gentlemen were unanimously elected active members : Wm. Calvert, D. D. S., Wm. Gorgas, D. D. S., Philadelphia; Thos. A. Shaw, D. D. S., Alabama. And in view of the services rendered to the dental profession by Dr. John R. McCurdy, he was, also, unanimously elected an honorary member of the Association.

At the stated meeting of the Pennsylvania Association of Dental Surgeons, held on December 5th, 1854, the principal business was the discussion at large of the report of the Committee on Anæsthetic Agents; the subject was considered of such importance as to require another meeting expressly to further discuss this topic, and consequently an adjourned stated meeting was held on Tuesday, December the 12th, when, after a thorough debate, the following report of the Committee on Anæsthetics was adopted, and ordered to be published.

" To the President and Members of the ' Pennsylvania Association of Dental Surgeons.' "

" GENTLEMEN :—Your Committee, for the purpose of investigating the claims of Sulphuric Ether and other Anæsthetics upon the Dental Department of Surgery, would present the following report :

" Whereas, a period of seven years having transpired since the discovery of certain agents, the use of which possesses the unquestionable power of abrogating pain, not only during surgical operations of known extreme severity, but in many other diseased conditions of the body, heretofore characterized by long continued and severe distress, and

" Whereas, these well-known agents have been widely and generally tested throughout the civilized world by associate bodies, and by men of known scientific acquirements to whom we can justly attribute none other than praiseworthy motives in the cause, and

Whereas, whatever may be the merits claimed by individuals as discoverers in this matter, it is universally ceded as a gift to suffering humanity, emanating from the dental department of the healing art, we deem some expression as to its former and continued use in our especial calling as not inappropriate at the present time. It is, therefore

" Resolved, That we, as a body, express our approbation for the persistent method heretofore pursued, by which a rapid introduction and a continued use of these agents has been so firmly secured as a relief to human suffering, and that we confidently recommend their continuance and further investigation in the hands of *prudent, careful and scientific* men. Also,

" Resolved, That in the opinion of this Association, a reciprocating confidence on the part of the community will tend much to secure

agreeable mental effects, when it is necessary to resort to the use of these agents.

“*Resolved*, That as no fatal effect in the use of *Sulphuric Ether* has been directly attributable to it, we therefore recommend it in preference to all other known anæsthetics, for the purpose of inhalation; particularly when required for such brief operations as the extracting of teeth.

“*Resolved*, That it is the belief of this Association, that the interests both of the profession and the community at large, will be better subserved by the encouragement of such of our brethren in the use of anæsthetics as possess the taste and an honest desire to investigate their full merits.

“All of which is respectfully submitted.

(Signed)

“J. F. B. FLAGG, M. D., D. D. S.,

“ELISHA TOWNSEND, M. D., D. D. S.,

“CHAS. A. DU BOUCHET, M. D., D. D. S.,

“DANIEL NEALL, D. D. S.,

“*April 4th*, 1854.”

“*Committee.*”

The following gentlemen were duly elected active members of the Association:—Firman Coar, D. D. S., Louis Jack, D. D. S., H. F. Reinstein.

We have, besides, held in due season our monthly special *tooth-talk* meetings, at which discussions of the most interesting character have taken place—on correcting irregularities, special operations, anæsthesia, &c., &c. At one of these meetings Dr. Rikey, of Iowa, exhibited his new plan for mounting artificial teeth, and very kindly described his whole process.

If agreeable, I shall endeavor to keep the Dental News Letter posted up with all the doings of the Association.

For the Dental News Letter.

ETHER AND CHLOROFORM.

MESSRS. EDITORS:—I beg you not to be alarmed at the above caption. I am not going to add to the many startling revelations of which the public prints have been prolific for the past few months. What with the reports of meetings, statements and cards, we have had ether “*ad nauseam.*”

For amusement only, let me jot down here a few items which I have come across among this mass of matter, and then add a few remarks.

One dental practitioner states “that he had witnessed the use of

ether in *fifteen hundred cases*," and goes on to say that in the case of a young lady, she exclaimed, "Oh! dear George Christy, how I should like to kiss you." Now, any one who has ever seen this prominent factitious African, all begrimmed with burnt cork, or other inky substance, might well exclaim, "gracious, what a taste!" A compromise, in appearance at least, might have been made with great advantage to the young lady in substituting a well-bred dog.

In the evidence of another I find this passage, "*Nine years ago* a young lady called, with her mother, to have a tooth removed. Soon after the operation, she angrily complained that he had rudely kissed her, and no assurance of her mother could convince her to the contrary. So thoroughly riveted is the impression, that on meeting her last summer, at Saratoga, and asking her if she had got rid of that foolish impression, replied—'O! that is nonsense. You know you did.'"

Now, "*nine years ago*" from the date when this statement was made, takes us back to the fall of 1845, a period of time I was not aware that ether was administered in dental operations; for Dr. Morton, whom I always supposed was the first to use it in the extraction of teeth, performed his first operation of extraction, under its influence, on September 30, 1846, (a year later.) And the work from which I take this fact, goes on to say that that was the first experiment of the kind known. Are we to believe that Dr. Morton was mistaken? that the gentleman above quoted had preceded him at least one year in the use of ether? How shall we reconcile this? Who is right? Is this a new claimant for the ether discovery? Let me beg of him not to revive this much vexed question. As I have, however, but the simple statement for this early use of ether, I must be permitted to still believe that the facts are with Dr. Morton, and that too great a zeal has led the gentleman into a very unfortunate error. In this way only can I get over the difficulty, and relieve the gentleman from *the very unjust suspicion of being the veritable first discoverer*. As to the kissing, I can say nothing.

Another relates the case of a young lady who, under the influence of ether, "placed her brother's hat on her head, put on his coat, and nursed the sofa pillow on her lap." Here was woman's rights to a certainty—fulfilling the functions of both sexes, in the disposition to wear male attire, and nurse the baby.

Another (a modest young man I dare say) was dreadfully shocked in having a lady patient charge him with kissing her. Oh! aint you ashamed, you naughty fellow.

And yet another, who, in conversation, we overheard say that he had used ether in *three thousand cases*, but after much persuasion he was induced to fall, first to twenty-five hundred, and finally to two thousand, but there he stuck, and declared he would not make any further abatement.

These, and many similarly wonderful statements which have been made, are altogether astonishing and marvellous.

If the proof of Dr. B.'s innocence (which they are, to some extent, intended to substantiate) rested upon such statements as these, he would be very much like that celebrated traveller "Sinbad the Sailor," when he landed upon a very remarkable island, and on making a fire found the island sinking under him, and finally made the discovery that it was a whale's back which he had taken for an island. I do not mean to say that the stories are "*very like a whale*," or that they smell "*fishy*," but seriously, I do say, that if these were his only basis for maintaining character and reputation, I fear he would be a doomed man professionally and morally; but I am glad to learn that his professional friends, at home, have a better foundation to build upon—a belief in his innocence from their knowledge of the man, and from the testimony. Such wonderful relations only, in my judgment, prejudice the case, and array the whole public in opposition to a useful agent in proper hands, and in cases where it is not contra-indicated. I do honestly trust that the excitement is now over, and forever, and that none shall be so insane as to rekindle the flames, or so vain as to relate any more of such *startling and alarming disclosures*!—such transcendentalisms.

* *
*

For the Dental News Letter.

SPONGE GOLD.

MESSRS. EDITORS:—It may, perhaps, be expected of us to reply to some of Dr. White's questions and remarks, in his reply to our previous article, published in the last number of the News Letter, under this head. And in the outset we wish to state that in the investigation of this matter we have no other interest or desire than to come at the truth. We, therefore, shall endeavor to treat all opinions with due respect, and weigh them with candor, in the light of reason and facts.

If, in pursuing this reply, we shall seem to reflect somewhat upon the science and skill of the Doctor, in the use of sponge gold, it must be considered a *consequence* of his prematurely rejecting it. For from what we know of him, we entertain great respect for his ability, science and skill, in the profession. It is no new or strange fact that even

scientific men may err. The Doctor will, therefore, of course take any seeming scathing all in good part.

We do most heartily agree with him, that facts are what we want, and useful whether in favor or against a principle, and we had been blind enough to suppose that we had presented facts in favor of the use of sponge gold. But we are told, "that the use of a few ounces and the experience of a year is not sufficient, but it must last longer than any one has yet used it to be as well tested as foil." This we readily concede. But if the statements of its unexceptionable satisfaction and success by individuals in the constant use of sponge gold, since its first general introduction for filling teeth, are not worthy and important facts, then to what source shall we look for them?

But we are told your "facts are abundant and against sponge gold, as a suitable and permanent material for filling teeth."

It is an old saying, (and we think very generally true,) that it is a poor rule that won't work both ways. If, then, the longest time that any one has yet used it, is not adequate to test and establish the value of sponge gold, have its opponents had the requisite time in which to condemn it—or do negative facts mature earlier or sooner than affirmative?

Let us for a moment examine some of these negative facts, and see if it isn't possible that they may need a little more time in which to mature. First, you say, "we admit that we cannot acquire much skill in the use of a few ounces, or even a year's trial;" but still you introduce your first *fact* in condemnation, which must have occurred in your own practice within about the time in which you state you could not acquire much skill; and as you especially call for explanation to this *one*, we may reasonably infer it to be your strong one. You say, "we plugged a very large crown cavity and pulp destroyed many years; there was no reason why we should not plug the cavity firmly." Let me ask here if there may not be, yes, more, if it is not highly probable that there was a good reason why this plug was not made perfect? since the operator himself admits a lack of skill (experience) in the use of sponge gold. He finds in the course of a few months the *dead* tooth loosened, and extracts it; the surface of the plug remains beautiful; by a little pressure the instrument perforates the plug, the tooth is filed in two, and the plug is found hollow, and all the gold below the surface was like brick dust, the tooth was also much blackened. But what is still more strange, you say, "the tooth could not have been plugged and a good surface made by leaving such a cavity below." Now, the force or point in this *fact* does not rest upon the circumstance,

that the tooth, which had lost its pulp many years previous, in a few months after being filled, becomes loose ; this needs no other argument than the simple notice that similar cases have ever been familiar to the profession ; but rather upon the fact that the filling was found imperfect beneath its surface, in connection with the impression that it could not have been thus left and a good surface made. This point, if sustained ; we mean to say, if it could be shown that this cavity was filled solid with pure sponge gold, would establish an insurmountable fact against its use. We understand that sponge gold prepared for filling teeth, is pure, or may and should be pure gold ; and it is to be presumed that the sponge gold used in this cavity was pure, from the fact that its surface had not been affected by the juice of the mouth, but presented a " beautiful " appearance when removed from the mouth.

Then, does pure gold possess the requisite properties for self-destruction ? And, is it held, that beneath the surface of a solid plug, in the absence of air and water, that chemical action or decomposition does or can take place ? If not, as must be admitted, how comes this vacuum within this plug, and beneath its solid surface ? We do not question the fact of its existence, but we do question the statement that the tooth could not have been plugged, and a good surface made by leaving such a cavity below.

By the simple experiment of taking a tooth with a large crown cavity, and packing the side walls all around until the gold projects somewhat past the opening, leaving a cavity in the centre over which an inexperienced operator (in the use of sponge gold) in haste might very naturally place a large piece of sponge gold, thinking to press it readily into the cavity, but instead, it will be found to have lodged upon the projecting rim of gold already in the cavity—become solid (by pressure) upon its surface—and leave a cavity beneath. At the same time, by applying a pointed instrument, or one with a much smaller face than would be proper or requisite to use in filling and finishing such a cavity, and applying the force directly over the centre of the cavity, the plug may be perforated in some cases with slight pressure. All who are familiar with the nature and use of sponge gold, will readily perceive the fact in the statement.

As this tooth was evidently filled, among the early experiments of the operator with sponge gold, a large cavity necessarily consuming much time, superior molar, situated precisely by the side of a large salivary duct, (parotid,) which is liable at times, if extra precaution is not taken, to leak its fluid almost imperceptibly into the cavity being filled ; such first indication leading the operator to hasten the operation.

And in case a little moisture or saliva should come in contact with the filling while loosely placed in the cavity, it would have produced this same "brick dust" like appearance of the gold as described. Now, is it not fair and just, under all the circumstances, and in the light of this reasoning, to infer that the manipulations in the filling of this tooth, were hastened from the appearance of moisture, and as a consequence, of that haste and admitted lack of skill (experience in the use of sponge gold) may be attributed all the unfavorable appearances of this filling. It so seems to us, and we think our friend White, upon due reflection, will be inclined to acknowledge the *corn*. As the blackened appearance of the tooth might be accounted for in so many different ways, so readily observed by all, we do not consider this feature worthy of further notice.

The next *fact* to which our attention is directed, consists in a "large cavity, pulp dead many years," the patient, "a young lady about twenty years old." The tooth had been plugged three or four times in seven or eight years, and as many times failed; sponge gold came in use—and the same *identical* dentist who had plugged the same *identical* cavity three or four times within seven or eight years, with foil, has, it seems, plugged the same cavity with sponge gold, being the fourth or fifth time plugged within about seven or eight years; in the course of a few months, this fifth plug drops out also. And we are told this dentist is "deservedly respectable;" respectable for what? The Dr. will not say he is deservedly respectable for any skill exhibited in the treatment of this tooth, at least; if he had thought so, he never would have undertaken to plug the same tooth himself with No. 4 foil, as he claims to have done. Now, what does this case or *fact* prove? It proves exactly this, and nothing essential more or less: that four or five plugs were placed in one cavity—three or four of foil, and one of sponge gold, within about eight years, by the same dentist, and all alike have failed, and for the same cause, for aught that hath been shown, confirming the fact that sponge gold is of no more, and perhaps of less value in the hands of an unskillful dentist than gold foil. All must accede to this *self-evident* conclusion.

And next is presented at least the appearance of an effort to prejudice the mind of the profession against the use of sponge gold, (we have too much respect for the Doctor to charge him with *intentional* misrepresentation in this matter for any purpose,) by representing those who are favorable to its use as materially and essentially differing in opinions.

Now, what are the facts in relation to this would-be difference of

opinions between our statements and Prof. Arthur's? Does it exist in fact, or only in the apparent effort to show a difference?

Let us examine—first, in the articles referred to, our statement is imperfectly quoted as follows: “one particle cannot be made to adhere to another, when one part is consolidated, even though the surface is rough.” The following is our statement: “one particle of it cannot be made to adhere *permanently* to another that has been *thoroughly* consolidated, not even by roughening its surface.” Thus it is shown that we were made to say what we did not say, changing essentially our statement and opinion, as will be seen in the sequel.

Prof. Arthur says: “if *certain conditions* are observed, one piece welds firmly to another which has undergone compression.” Then what are we to understand by “certain conditions” in this connection? *clearly* that the pressure must not be so applied as to *thoroughly* consolidate all that portion with which the next piece is to come in contact. For instance, in filling a cavity, the sponge gold may be compressed against the walls of the cavity all around, adding layer after layer with side pressure until the cavity is full, and notwithstanding the gold has been compressed, yet the “certain conditions” have been observed, by leaving the projecting surface with its crystals unmutilated, upon which another piece may be placed and firmly welded. Is not this a fair, and the only plausible, interpretation of Prof. Arthur's “certain conditions?”

Then, we ask, is it but just to infer that Prof. Arthur would agree with our statement which was not as quoted, simply, “consolidated,” but *thoroughly* consolidated, or in other language, every *portion* made perfectly solid, which is seen to convey a very different statement or opinion.

We are again made to differ, and only by quoting what we did not say, viz: we are quoted as having said of sponge gold, “it will make a better filling in every important respect than foil.” We did say, “that a better plug in every important respect *in nearly all cases* can be made with it than with foil.” Says Prof. Arthur, “it is good in large and deep and very small cavities, but in medium sized cavities quite as good a filling may be made of foil.” Where in these statements is to be found the least real difference of opinion? We have stated that *in nearly all cases* sponge gold is preferable. Prof. Arthur has stated that there are some cavities that can be filled quite as well with foil; virtually both concede the same thing.

And, after all, we have not been able to discover any great “confusion

of tongues," especially as between its (sponge gold) advocates referred to in this paper.

As the Orthodox say, on fundamentals we *do* agree, in non-essentials we *may* differ.

The remaining unnoticed remarks of the Doct. in connection with this subject, consist mostly in statements and opinions, some of them, indeed, very worthy of thought and reflection; others directly in conflict with our own, but hardly seem to require our specific notice, as our views were expressed in our previous article as regards most of them. Yet, in conclusion, we will for a moment refer to the Doctor's idea of improvements, which we think must have been the production of an unmaturing thought, as pertaining to the dental profession. He says, "we regard improvements as valuable in proportion as they look to economy in time, labor and money expense." Has not the experience of the last thirty, forty, or fifty years established, beyond a doubt, the fact, the wide world over, that just in proportion as economy in time, labor and money expense has been looked to in all improvements, the production has been degraded and reduced in its intrinsic value? This may be all very well in many branches of business or occupations; but is it desirable or advisable in the dental profession, where organs of such immense value as the human teeth are to be treated.

We say, give us improvements at *any* cost within our reach. We need but to cast our eyes about us to witness this degradation, and even already it is seen to no small extent in the dental profession, as the result of a looking to economy in time, labor and money expense. And in my opinion, the profession will retrograde just in proportion as this idea obtains with its members.

The interest and protection against imposition of the people, demand especially of them, that they look only secondarily to the money expense in this matter pertaining to those valuable organs, their teeth, which if destroyed (by imposition) cannot be restored like merchandise and machinery to all the excellencies of their primitive beauty, convenience and uses. If the profession is but stintedly paid, in its service may be expected to be seen the progeny of its pay. But if liberally recompensed, she will patiently, perseveringly, faithfully and with energy, execute; stimulated by a consciousness of ample reward, her untiring zeal seeks for improvements and perfection in all her works.

J. W. T. RICE.

Cazenovia, Jan. 26th, 1855.

For the Dental News Letter.

THE ETHER QUESTION.

BY JAMES E. GARRETSON.

How tenaciously cling about our after lives the impressions of earlier years ; and how importantly do such impressions influence.

When quite a small boy, and we believe it was on the occasion of our first visit to the city, in rambling along the streets, our attention was attracted towards, and riveted for a time upon, a strange looking, weather-beathen old sign looming conspicuously over the door of a stove store, bearing the inscription :

“ Be not the first by whom the new is tried,
Nor yet the last to lay the old aside.”

We remember how, even at that time, it struck our young mind as being excellent philosophy, and, freely we admit, that many of the most important events of our after life have revolved about the suggestion as their fulcrant.

For a long time we balanced upon it in the ether controversy, unwilling to discard an agent promising such immunity from suffering, fearful of incautiously and unwisely employing a remedy thought by many—and whose opinions we greatly respected—to be attended by evils of such magnitude as to authorize its entire rejection.

Offering this paper as an addenda, the result of a somewhat close and careful attention we have endeavored to give the subject, we would express with it the hope, that if it results in no other good, it may at least incite to expression those so capable of enlightening the darkness ; the profession loudly call for this light ; suffering humanity demands it. Let such, by a comparison of views and practice, endeavor to erect a scientific platform upon which all may feel they stand firmly. If ether be a pure good, let it be endorsed ; if it is a partial good, let its direction be given ; if it is an unalloyed evil, let it be condemned and decapitated.

Is sulphuric ether, administered through the medium of the respiratory organs, a safe agent ? Are its pathological with its physiological relations—allow us the terms—best understood by those who so fearlessly use or by those who repudiate it ?

In all communities are to be found enthusiastic individuals ready and waiting to give greeting and countenance to any and everything bearing the impress of novelty ; a homogeneous class, embracing alike the professional and non-professional, the lettered and the unlettered, those in high places, and those in low places. A class making their deductions from isolated cases ; jumping at conclusions through

favorable one-side presentments ; acting and shaping their course by the light of the bright side, refusing to acknowledge a reverse, until butterfly like, they are too often involved in the winter, totally unprepared, wrecked, and might we not add, deservedly destroyed.

Discoveries or presentments, intimate in their connection with man's happiness and comfort, direct and important in their bearing upon his welfare, should be received, rejected, or endorsed with all the hesitancy and prudent consideration which their importance may demand. This we think, a moment's reflection will receive as an axiom.

Is sulphuric ether a safe agent ? Allow us an anecdote, related by a friend, as, some few evenings since, we found ourselves *tete-a-tete* with him in his office. "When Dr. Morton first introduced his *Letheon*," said he, "I was *learning dentistry* in a far away country office. My preceptor—a dentist of the old regime—had paid his fifteen dollars for the right to use—or abuse—it, the certified fact of which, duly framed, hung against the office wall. And by the way," continued he, "there was a great ado made of it." Night after night, as we sat together in the village grocery, would the Dr. discourse, learnedly, to the wondering crowd of the wonderful agent. "Esculapius made to do our bidding, gentlemen," would he say ; "the Syriens made to discourse their sweetest music, charming away all pain ; Lethe, made to bathe the senses in waters of forgetfulness." I tacked my importance to the hem of his garment and shared the honors. Our rustic friends swallowed all and every saying in becoming silence, while as he proceeded it became evident that

— "Still the wonder grew
That one small head could carry all he knew."

"Doctor," said I, as one delightful summer's afternoon we were listlessly lounging away an idle hour in the sanctum ; "Doctor, what would you do in a case of meeting with some accident while etherizing a patient, suppose he should stop breathing ?" "Evidently," continued our friend, "I asked too much." Doctor dangled his immense watch seal, tucked up his shirt collar, abstractedly whistled, "Coming through the rye." "Yes, what would you do, Doctor ;" re-suggested we, urging an answer.

"Dr. Roby ; ahem, what would I do ?"—a strain whistled from the Highland laddie. "Well, that's right lad, always make it a point to ask of that with which you are unfamiliar. The great Grecian philosopher gained his extensive fund of knowledge from such procedure. I will relate you his story."

"I remember it, sir, if you please."

"You remember it? ah, very well sir, always bear him in mind; a praiseworthy example, very praiseworthy indeed, sir. The dental surgeon should, by every means within his reach, familiarize himself with the specialities of his profession, with its omegas as with its alphas. Well then, sir, in answer to your question, suppose we have a case of asphyxia."

"Asphyxia, what is that, sir?" innocently I asked the question, for of a verity I never before had heard of such a condition.

"Asphyxia, what is it, sir? What is it? Why, asphyxia is—is—bless my forgetful soul—pulling out his old English time piece—if here is'n't fifteen minutes to five, and I had engaged to meet parson S. at four, down at the school-house, for a walk. Here, Roby, is the last Dental Book, there is a piece in it about ether—read it closely—always read closely;" and off shot the Doctor—not to meet the parson, but to get clear of speciality.

Our friend's worthy tutor, the Doctor, makes one of a quite large class, who *ain't* in the least afraid of ether—not in the least. Might we venture the opinion, without weakening our assumed neutrality, that here, ether is not a perfectly safe agent. Don't misquote us; we don't say the unsafeness is in the Doctors.

Again, there is another class of whom we have taken cognizance, higher in the rank and file than the former. They have drank more deeply of the pierian spring, but not drank quite deep enough

"To see themselves, as others see them."

This class, also, is not afraid of ether; they have employed it in hundreds of cases, and never yet met the semblance of an accident; with this class, you must get a patent inhaler, and go to some one who knows how to *give* it—ten dollars will graduate you here.

Doctors A, and B and C are jack's, says one of this class; they gulph down nightly any quantity of ether in the more miscible form of brandy, and yet are afraid of the pure stuff. Yes, says another, and it is far more dangerous, for being ether in hydrate, its effects are more insidious and unconquerable. Faith, speaks up a third, don't talk to me of idiosyncrasies; because Malinsey drowned Clarence, am I not to use it? Attempt to reason together with these men, and ten chances to one, but they will fly off tangent-like into a disquisition on the aldehide or some other principle, very soon losing both you and themselves in the labyrinth of their own creation.

There is still another class, the careful experimenters;—builders upon the sandy foundation, having no corner-stone of scientific basis; very careful gentlemen, indeed—most exceedingly cautious, turning

every moment to see whether or not their shadows attend them. Exhibiting just a sufficiency of ether to act upon the cerebral lobes—disturbing the intellect, then becoming alarmed, lay it aside, as satisfied as they have been frightened; these men will prate to you of derangements, hallucinations, etc. etc.

And yet another class—we have but one name for them—opposers; the counterpart of the opposers of Newton, of the opposers of Hervey, of the opposers of Franklin—a class wedded to prejudices, the opponents of everything progressive.

And still another—the learned, the judicious, the thinking class, embracing the pre-eminent of the professions—the oracles of our institutions.

Discarding our second question, or rather indirectly viewing it, we proceed to our addenda; we trust the authorities compended and presented, may receive that attentive consideration their position so fully entitles them to at the threshold of thinking professionals. We have no desire to review them in vain; we are desirous, because of the love we have for our profession; because of the desire we have to be of some benefit to suffering humanity, to have them properly received; hoping our paper shall be the forerunner of the winds which shall dispel the surrounding darkness, giving us the clear light of mid-day wherein to walk. Evidently, we want knowledge on this question, or why this disagreement *among the Doctors*? Why this lack of unanimity?

Knowledge is power; it has grasped and reined the mighty lightnings; has harnessed to cars of burthen, compelling to meinal servitude the boundless steam; has soared in giddy gyrations through the immeasurable expanse of limitless skies; has outstripped even old Time in the race of life; has peered through intervening skies, painting the heavens; has employed the sun in its service, the moon, the stars, the wide expanse of waters—and, shall it not conquer pain?

“So long as pain is an evil, and ease a good—so long, in other words, as man is man, must any means be prized that is capable of achieving the latter, by the abolition of the former. As, then, the pain of surgical operations is certainly of the most terrible of its class, and it is no longer doubtful that etherization has the power of abolishing this, what remains for our consideration is not so much—whether this new means shall be hailed by us as a matchless priceless and discovery, and cherished and adopted as a blessed thing; this appreciation has been made; this adoption has been consecrated by almost universal practice. What remains for consideration is,—whether the good is a

pure good, or is counterbalanced by evil." It is, as we before remarked, on this last issue the verdict should be returned.

The obvious, open, palpable, glorious good of etherization, is to deliver the wretched victim of surgical disease from the additional torture of pain, while seeking the goal of health through the portals of chirurgery. The evils that have been said to follow or accompany this good have, however, been regarded by some eminent surgeons of so serious a character, as not only to reject etherization in their own practice, but to denounce it publicly, as a means that will be scouted from the field in less than a twelvemonth. We confess that we have been surprised to hear this opinion, as we have not been able to discover in any quarter—and we have sought in all—any rational grounds to justify it. Of the hundreds and thousands—we might almost say hundreds of thousands—who have taken ether to insensibility, we have been unable to discover, after the most extended inquiries, a single case in which the process resulted in death, or left behind it consequences of serious importance that were certainly attributable to it.

In a small proportion of cases, there have, no doubt, been some unpleasant results, such as temporary depression of the vital powers; headache more or less considerable for some hours, and even for a day or two; hysterical excitement in woman for a similar length of time; slight bronchial irritation, nausea and sickness, and some other slight affections. But the proportion of patients suffering even in this slight manner has been extremely small, indeed wonderfully small, when we consider the indiscriminate manner in which the practice has been had recourse to with bad ether, bad apparatus, bad manipulators, and, speaking generally, with the whole subject in the chaotic state of a new creation, the principles not understood, the practice merely tentative and experimental. That so very few, and such trifling accidents have occurred in such a state of things, is to us a most convincing proof of the general safety of the practice. So far from results of this uniformly innocent complexion being those which might have been anticipated from the rash, and almost universal employment of a means avowedly capable of others of a very different kind, it is really surprising that actual death, not once or twice, but scores of times, has not been the consequence of ethereal epidemic. We have ourselves been constantly looking for such consequences, and we are still prepared to find them, but when they arrive, if ever they should arrive, we shall still have to consider well, before condemning the ether, whether the fatal event was a necessary consequence of its use, or merely an accidental result from its *abuse*.

[To to continued]

THE DENTAL NEWS LETTER.

APRIL, 1855.

SPONGE GOLD.

A "Review of Editorial Remarks upon Sponge Gold, by Dr. J. D. White," in "The Dental Register of the West." By "J. T." January, 1855.

We infer, from the language and style of the review of J. T., that we have hit a tender point, but one that the majority of mankind is not free from—the *pocket*. Is there any "connection between the premises and the conclusion?" We never purposely set out to write nonsense, and if such matter should be found *abundantly* in our articles, an equally honest inquirer after truth will not waste much time and paper to prove it. If we were to compare notes with J. T., we could guess at the conclusion. We will therefore leave the *personal* consideration of J. T.'s review, and proceed to the consideration of what we have said about sponge gold.

That packing gold into a cavity and rolling it into a plate are two things, is obvious; as a mass of sponge gold in rolling is not solid until the two surfaces are brought close together, and that the *amount* of pressure in the two operations is different. It is admitted that sponge gold can only be consolidated by "*pressure*," and that requires *muscular* strength, when it is not under the rollers. A plate of gold is not permeated by dampness under ordinary pressure, but the hardest sponge gold plugs, made in the mouth, are. The hardest plugs of foil or sponge gold that we ever saw, are permeated by dampness to *some extent, more or less*; if not from the exposed surface, they are from the walls of the cavity. A tooth weighing 37 grains, lost five grains by drying, and took up four grains by immersing in water. Will this explain all we have said about that "*chap*" dampness? Go ask the school boy how this is effected, and he will answer by *capillary attraction*, whether through dentine, between the folds of foil, or the crystals of sponge gold, or between the walls of the cavity and the plugs, or through relatively hard or soft plugs. This will explain the reason why large sponge gold plugs have dropped out of their cavities; or any plug that has not a very strong hold on the walls of the cavity. As the sponge gold does not spread or crush latterly (as it is said) it is not as likely to get a firm hold on the walls of a cavity as foil; how-

ever, this may also be an error. How does a mass of sponge gold acquire the form of plate, or wire, if it will not yield except directly before the instrument? This doubtless explains the difference between the pressure in *plugging* a tooth and *rolling* a plate.

We have said that we had occasion to remove plugs of this preparation, on account of the teeth giving trouble after they were plugged. We have also removed foil plugs for similar reasons. When a tooth gives trouble (pain) we remove the plug, because we have a better opportunity to treat the tooth, instead of leaving the case and the patient to take care of themselves; and it does not wound our conscience, but it affords us an opportunity to observe the character of the material used. We never attempted to plug a tooth with a mass of sponge gold sufficiently large to complete a filling, but used masses larger or smaller, as we had been directed by those who furnished the article; and we found that we could not render the plug hard enough not to be broken up in a short time by moisture, or some other cause. We used the gold as described by Dr. J. Taft, in an article which appears in the present number (Jan., 1855,) of the Dental Register, as faithfully as we knew how; we had been directed so to do before, by several in the profession, as the proper method. We did not, however, use it in as large portions as he directs, "as large as will freely enter the cavity, and then set in place with a large square pointed instrument, serrated upon the end;" and then follow with as small and as sharp a pointed instrument, and with as much pressure as the gold would bear without cutting it in pieces. We have said elsewhere that we had used the means that had been directed, and failed; and others in the profession have, under similar circumstances, met with the same results. We have never said that a solid sponge gold plug is dissolved by dampness. They are never made solid, at least we do not think so, if it is meant that solid means the same thing as complete welding. Nor do we believe, as it is used at present, that a plug can be made so in the mouth, either with sponge gold or foil; and when that is effected, it will be, in a measure, impervious to dampness; and sponge gold will be a good substance in some respects for plugging teeth; and then, as we have said, it will not *necessarily* be a *perfect plug*, if such term is to mean that it is not liable to change by the vicissitudes of the mouth, and the changes the teeth undergo. We are doubtless the only dental author that does not seek after the vision—*perfection* in dental operations. If the plug is not also *welded* to the walls of the cavity, dampness will find its way between the plug and the tooth, and sooner or later destroy its use as a work of perfection.

We would be glad to know ourselves, why a very solid plug finds its way out of a cavity in the approximal and labial surfaces of teeth, or to be found starting from the cavity, as though it were a piece of gold plate, and that took firm hold of the cavity when the operation was performed, and the cavity dry, if it were not for the dampness *dissecting* (a new term) the gold away from the walls of the cavity. We will cite a case or two bearing upon this point.

A lady, about 30 years of age, applied to us to plug a back tooth, out of which the plug had fallen. She had been under the care of a gentleman of the finest abilities in our city for plugging teeth. All her front teeth had been plugged for some time. In examining them we remarked to her, that the plug of the left superior lateral, right approximal surface was coming out, and she must let us look at it from time to time. She called a few months after, to have some other operations done, when we observed that the plug had started out of the cavity still more; it was projecting out as much as the thickness of common card paper. We made an appointment, four weeks off, to refill the tooth, but in two weeks after she called and informed us that the plug was gone. We examined the cavity, and found it was as well shaped as we usually make them for plugging. What forced this plug out? There are a number of plugs in the same mouth in similar progress of coming out.

We have a young gentleman under our care, from the same operator, whose teeth are all decayed near and on the necks, on the labial and buccal surfaces, and they came out by similar process; and they have been filled frequently; some of those plugs project so far out of the cavities, that six months ago we took a cast of them, in plaster, to preserve the phenomenon. The teeth of these patients are large. As these cavities hold plugs well enough to bear filing and burnishing without becoming loose at the time of plugging, why do they in time loosen?

We do not cite these cases as militating against the merits of sponge gold, but to show that there is some law, or laws, operating to dislodge plugs that have escaped "goggle-eyed" observation. We will give our *rationale*, or theory, and hold it good until a better is furnished. It is safe to begin by saying that all substances expand by an increase of temperature, and contract by a diminution of the same; and also that metals are good conductors of caloric, and this explains, in part, the reason why a tooth is sensitive to cold substances, when cleansed of the poor conductor—the decayed dentine. A small plug in a tooth will frequently be sufficient, when cold is applied to it, to

excite or induce considerable pain, that before the plug was put in was insensible to such change; the surface of the whole body of the tooth was not sufficient from its non-conducting or feebly conducting powers of temperature to produce the same amount of pain. We have not, nor do we regard it as essential to make any experiments to prove the "*exact*" difference between the expansion of tooth substance and a metal like gold; even if the ultimate difference were equal, it would make no difference in the argument or statement, since the gold is the more rapidly expanded or contracted. There has been too much stress put upon the gold adhering together and forming a solid mass, and by that means obtaining a "*perfect*" plug; and not sufficient upon the shape of the cavity to hold the mass against any other causes; and when sponge gold was discovered to "*weld*," and foil would not, it was hailed as the *desideratum*; *dampness, expansion and contraction* was not dreamed of.

But, to our *rationale*. It has too generally been considered that when a cavity was sufficiently enlarged within to hold or take a plug well, when the cavity was as dry as it could be made, and a little rough also, that it was properly prepared. But this is not so; a very illy-shaped cavity will take a plug, and hold it well for the time being, which the least effect of dampness or shifting by contraction or expansion, will let go its hold of the plug and cause it to drop out. All cavities ought to be larger within their orifices—a good deal, we do not know by actual measurement how much—and polished smoothly with pumice, before they are fit to receive a plug; and no considerable reliance to be placed upon the adhesiveness of the laminæ of the gold, *but upon the mechanical hold the cavity takes of the whole mass of the plug*; adhesiveness only favors the *facility* of manipulating with the gold at the time of plugging, and makes it a LESS SKILLFUL performance than when this condition is not relied on. We make this *old-fashioned* statement with *fear and trembling*, and expect the whole *phalanx* of advocates of *adhesive* materials down on us, with an *adhesiveness* and *tenacity* of contact that we will not be able to shake off. This is our conviction, and we leave it to "*time!* the corrector, where our judgments err—the test of truth."

Mr. J. T. inquires, "does it not depend more upon the skill of the operator, and the perfect form of his instruments, than upon muscular strength?" We answer, that it depends as much upon the *adaptation* of instruments—not "*perfect form*"—as muscular strength; but the one is as necessary as the other; as it is *only* pressure that consolidates sponge gold or foil, a proper combination of both is requisite; and a

strong operator can make proportionately a better plug with the same instruments, as he applies more pressure, than a weak one.

He further adds, "imagine a strong robust man filling a delicate lady's tooth with a force of from one to two hundred pounds; (!) you could apply more force than that, could you not?" We must confess, we do not think we could apply so much force as J. T., if he is in the habit of applying from one to two hundred pounds. We may further add, that we have seldom seen so much exaggerated nonsense in an article of the same length, as is contained in the review of J. T. We will give the history of an experiment which we made before the class, which may throw some light on this statement of J. T. We have invented a simple instrument for registering the amount of pressure employed in consolidating gold foil in a tooth, out of the mouth, a description of which we will give hereafter, with a number of experiments, in connection with Prof. Arthur, for every one's use.

The experiment was made by plugging a cavity that held about three grains of gold; the smallest amount of pressure worthy of notice, at each effort with the plugger was ten pounds, and the highest made, was forty-eight pounds. Pressure was made, ranging between these two points, until the plug was considered as solid as it was ever made in the mouth, if not more so. When the aggregate was summed up, it amounted to two thousand three hundred and forty-two pounds. The tooth was broken, and the plug removed in a mass, and comparing it with other plugs taken from teeth plugged in the mouth, it was much harder than any we have ever seen, and absorbs dampness less rapidly than any we have tried. We consider that we applied as much pressure on this plug, and as *skillfully*, as we ever do in the mouth on a plug of the same size, and yet it does not come up to the enormous estimate of J. T. We question whether we are as strong as J. T. thinks we are?

We have not space to reply as we would wish to the article of Mr. Rice, which we give in the present number, but would thank him for the compliments he has been pleased to pay us, and the anxiety he manifests of endeavoring to arrive at the truth, and would, also, suggest that he will make more rapid progress in gaining the desired object by supporting his own statements, than by distorting our statements to his own ends, and discrediting the correctness of our observations, which were made with equally as honest motives as his own, and that we had a better opportunity of observation in our cases than he. But to the consideration of the merits of the material, sponge gold, as a suitable substance for plugging teeth.

We do not admit that we ever took a position against sponge gold, nor did we invite discussion; we invariably asked for more facts and information, not opinions, and said that we had made an honest endeavor to accomplish what had been claimed for it by others, and had used the means and methods recommended by its advocates, and had failed to make satisfactory operations, and asked for further instructions; we had a right as a journalist to express our doubts about it, or be liable to be regarded as favoring it; as we admitted articles in the journal strongly advocating its use, in the great majority of cases, still we do not make this statement to shield us in any way from any attack or review of our own remarks upon it. When the truth is known, and sponge gold is proven to be better than foil, in "important respects," we will doubtless have the courage to say so. Sponge gold was offered to the profession as a superior substance for plugging teeth, by one who was not himself a dentist, and it was left for the members of the profession to say, whether it would meet their wants better than foil, and we offer the following reasons and considerations, why it will not meet our wants, and regard them as answering much that has been said in its favor, and in explanation of some things that we have said on the subject: Gold in its crystallized state, as well as other metals that take that form, is too hard to be made very compact by pressure, without frequent annealing, and we are compelled to obtain *in the tooth*, by pressure alone, in using sponge gold,—the density of the substance of the gold, what is done for us in preparing foil by melting, rolling and hammering, *out of the tooth*; pressure, in other words, will not render the substance of the gold as compact as melting and hammering. Therefore,

1st. The coarser preparation of sponge gold is too hard and brittle, and requires too much pressure to condense it.

2d. The finer preparation is too loose and bulky, and requires too much time to pack it into so small a bulk as a plug, and the preparations are always varying between these two extremes.

3d. It is unhandy, as it can only be used with the pincer or rough ended instrument.

4th. It deteriorates too much by transportation, retention or exposure, and handling while in use, and frequent annealing, to keep it in condition, finally spoils it.

5th. It is injuriously affected by the dampness of the mouth, whether the saliva is in actual contact with it or not.

6th. There is no certainty when a good plug is made with it, and it may look like a good plug when it is not.

7th. It requires, according to its advocates, *too much skill* to use it *properly*.

8th. A lack of perfection in its preparation, in any requisite, renders it entirely useless.

9th. It cannot be applied with facility in the majority of cases.

10th. Its *apparent* "welding" properties renders it deceptive as a substance for plugging.

11th. We do not know when it is in a proper condition for use, until we entirely fail with it.

12th. The merits claimed for it, as a good substance for plugging, seem to depend upon such small circumstances or conditions, as to render it extremely uncertain or doubtful whether it is ever in a proper condition for successful use, and moreover, the term *welding*, as used in urging its use as a superior substance for plugging is calculated to deceive the operator, as it is incorrect, in speaking of the union of the particles of gold in plugging a tooth. The property of welding being confined to a very limited number of metals, of which gold is not one, welding also requires a temperature approaching that of fusion, to cause the union of the particles, and pressure also, and can take place under no other conditions; it is therefore, absurd to urge that property of metals to support it as a reliable form of gold for our purposes. The union of sponge gold in a plug is simply due to the close contact of the particles under pressure, and is an instance of simple *cohesion*, like that existing between the freshly cut surfaces of a leaden bullet when brought in contact under pressure. When sponge gold is compressed into a small cavity it is almost impossible, by any degree of force whatever, to bring the particles so closely together that the resulting mass should be free from pores, although it may appear solid to the eye. It is true the same difficulty exists, but in a much less degree in gold foil, *it* already being perfectly united in *one* direction, i. e. *laterally*, therefore, when compressed into a plug opposing its transverse section to the continuance of pores and fissures. The most important property, however, distinguishing sponge gold from gold foil, is that of the property possessed by many substances when in the form of a spongy porous mass, or fine powder, of condensing within their cavities many times their bulk of various gases, particularly oxygen. This has not yet, to our knowledge, been taken into account in considering the subject of sponge gold, and doubtless explains many of its peculiar and varying conditions heretofore unexplained, and perhaps unthought of. It is well known that platinum possesses this power to an astonishing extent, causing the

instantaneous inflammation of hydrogen gas, when a jet of it is directed upon a lump of spongy platinum in atmospheric air. Gold, also, possesses this curious property even when in the form of foil; still more so, when in the spongy state, although, under all conditions, in a less degree than platinum. According to Dulong and Thenard, (Gmelin's *Chemie*. band., v. I. p. 509,) gold produces the ignition of a mixture of hydrogen and oxygen gases, when it is in the state of fine foil, at a temperature of 260° c. ($=500^{\circ}$ F.) Coarser foil, at 280° c. ($=536^{\circ}$ F.) Precipitated gold dust produces the same phenomena, at a temperature of 55° c. ($=131^{\circ}$ F.) In a more finely divided state, at 50° c. ($=122^{\circ}$ F.) Consequently, we may assume that gold possesses a greater power of condensing gases upon its surface in the form of sponge gold, than when in the state of foil, and helps to explain its extreme liability to deterioration. As it is evidently impossible to expel the gases perfectly from the porous mass, when it is converted into a plug, inasmuch as it is impossible to destroy its porous condition by mechanical pressure in the mouth, although the plug may outwardly appear to the eye solid, hence the brick-dust formation in the body of a plug. It needs no further argument to prove that the tooth is not in a condition to be preserved from further change, since the oxygen contained within the spongy mass will exert its chemical action upon the parts of the tooth with which it is in contact. This will doubtless explain, also, the blackening of the tooth when plugged with sponge gold. The same thing is observed also, in some teeth when plugged with certain specimens of foil. Thus examined, we consider the preparations of sponge gold as unworthy of the high considerations claimed for it by its advocates, and added to it, the remaining impurities of the metals, with which it is combined, in its preparation, especially mercury, which has so strong an affinity for gold, and super-added the influence of capillary attraction when exposed to dampness, upon so porous a mass as sponge gold, together with the heat of the mouth, it may contain, therefore, and we believe it does contain, the *elements of its own destruction.*"

J. D. W.

The Washington Monument.—We find in the Boston Medical and Surgical Journal, a proposition that the medical men of Boston, contribute a block to the Washington Monument.

Why could not the dentists of this and other cities, send a like contribution from their respective places? We would gladly join in such a work.

We suggest the matter to the Pennsylvania Association of Dental Surgeons, and to the profession at large.

J. R. M'C.

DENTISTRY ON ITS OWN BASIS.

We have noticed with pain and regret, a disposition on the part of a portion of the dental profession—a morbid desire to possess the degree of a medical college, solely to give character, as they seem to suppose, to their profession—to make the degree paramount in importance, and *all sufficient for the practice of dentistry.*

Instances of this kind are not rare, and may be found in every city, and no doubt many practitioners can point to just such cases, within the circle of their professional acquaintance. Now, all this is as humiliating as it is pitiful, derogatory to the profession they practice, and peculiarly hurtful to its interests. They seem to forget that by just such a course, they countenance, and, indeed, encourage a want of respect for their profession in the minds of the public, as being a mere dependency—*half professional and of doubtful legitimacy.*

We propose, therefore, making a few general remarks on the subject, in the hope that they may be productive of good, by exciting a proper “*esprit du corps.*”

Is dentistry a science, distinct, complete—having its embodiment of principles and its mission?

Does the application of those principles to the wants of mankind, dignify and ennoble their follower and benefit the race? Is its practice alike honorable and useful?

Dentistry, although only a member of the great family of arts—a speciality, as is surgery—is yet an important member, and abundantly capable, in our judgment, of self-sustainment, having the necessary inherent strength.

All this, we doubt not, will be acknowledged by every practitioner who justly appreciates his profession, otherwise, he is in a false position.

What dentistry *was* and *is*, are two very distinct things. A new era has dawned upon our profession. She must not now be estimated by the position she occupied years ago, when in the keeping of a few obscure novices. She now counts her followers by thousands; among them are many to whom we can point with pride—men who would reflect honor upon any profession, and what is more than all, who are not ashamed of their profession.

She has now her schools, her periodicals and her literature, all of which are alike able, enterprising and intelligent, and that give evidence of great devotion to, and earnestness in the cause they are laboring to advance; and, at the same time, they manifest the rapid strides that have been made within the past few years. (The advances and improvements made in the past ten years are, indeed, really won-

derful, as every practitioner of that length of time can testify.) From such a review, then, with the evidence before us, we can say without fear of contradiction, that dentistry may now rank with any sister branch of the healing art.

The student of dentistry, to fit himself for a correct practice, must study dentistry *primarily*, and medicine as auxiliary—dentistry and general medicine, or such a curriculum as is offered by our dental schools. Now, all this may be obtained in the highest degree, to the greatest proficiency, without of necessity, the accompaniment of a medical diploma. In other words, the title of M. D., good in itself, is not evidence *per se* of fitness to practice dentistry, and we have seen lamentable instances in proof of this.

We will give place to none in our respect for the profession of medicine, and would insist upon the study of its general principles by the dentist as imperatively necessary for his thorough professional education: nor do we by any means object to his becoming a graduate of medicine, on the contrary would recommend it; but we can, at the same time, without heresy, entertain an appreciative regard for our own profession—not that we love “Cæsar less, but Rome more.”

We regret, therefore, the feelings evinced by those who entertain and advance such views, for the inference is very plain, that they, although practicing dentists, attribute all honor, character, intelligence and position to the possession of a medical diploma, and that the possession of such is *primæ facie* evidence of ability; that it is the standard all dentists are to be judged by, and that it is superior to all others; in other words, that dentistry must be pinned to the skirt of medicine—a *mere appendage*—and that all its honors (if it have any honors in the eyes of such men) are derived from such a connection.

Now, so long as dentistry is made to occupy such a position—to be cramped and stifled by men in its ranks, who should, from the position they occupy, and in justice to the profession they pretend to practice, wield an influence for its good—just so long will the learned professions, and through them the public, refuse to accord to it the usefulness and importance, the character and standing which it is entitled to claim, and which of right it should command.

Dentistry has a work to perform, and her follower who expects to sustain himself solely on being the possessor of a medical title, or makes it his stock in trade, will fail, or ought to fail. He is not worthy her regard, and no credit to the profession he practices, but a detriment—an incubus upon it. It is time this sponging, this borrowing of plumage, this false position, this fear to be honest and acknowledge

and respect the profession that sustains them, this *practicing dentistry under cover*—it is time, we say, it were done away. It should be the scorn, as it is the bane of every honest practitioner—should be frowned upon by every enlightened man; for, by just such practices as these, is dentistry insulted and degraded, and refused her proper position among the professions. On the contrary, he should be proud of his profession and ambitious to excel in it, for he may thus, in this pursuit, fill up the measure of his days as usefully, as honorably and as worthily as in any other secular vocation; and we may here say, that the dentist, conscious of ability, with noble purposes, and loving and appreciating his profession, will never shrink under the dignity of a medical diploma—never, as it were, retreat behind a sheep-skin and cry, “Here are my credentials.” Really, it were a question, in such a case, as to whom the honor belonged, the *sheep* or the *man*.

We are just reminded here of an anecdote told us, as follows:—A brace of young Englishmen traveling in Germany, finding, at a place they halted, medical honors easy, purchased a couple, and, on the spur of the moment, concluded to have the like titles for their horses, and sent a message to that effect, with the money, to which they received, from the authorities, the reply that, as the applicants knew, they sometimes sold to *asses* but never to *horses*.

Now, in relating this, we mean no disrespect to medicine, but give it believing it may have some point in the connection we use it. An honor conferred does not always prove ability, it is corroborative evidence only. We hold, it is not so much the degree that confers honor upon the man, as it is the man that reflects honor upon the degree.

“The mind’s the standard of the man.”

Ability! proficiency!! merit!!! The question should be—Is he a dentist? Is he qualified? Not is he a doctor of medicine. It is high time this distinction were made.

Now, what say you, gentlemen?—shall it be dentistry on its own basis, on its own merits, with its own fair proportions, or shall it be dentistry *under a cloud*, timid and fearful; too timid to assume its rightful position, and fearful at every claim it may make for a distinct identity—

“An airy nothing” lacking

“A local habitation and a name.”

With you the question rests.

J. R. M'C.

From a press of original matter we have been compelled to divide several long articles, which will be continued in our next.

A New Method of Annealing Teeth after Soldering.—Dr. S. L. Mintzer of this city has described to us the following plan, which he has adopted in his practice with great satisfaction.

He invests his teeth, preparatory to soldering, with a mixture of *very fine sand* and plaster, the sand preponderating in quantity. It is put on quite thick, and on the under or palatine surface of the plate gradually decreases in amount as it runs back to the posterior edge of the plate. This is done so that if the investment crack, the cracks would be induced to run from the anterior to the posterior edge of the plate, and would be likely to diverge as they approach the posterior edge, which he thinks desirable. He then places the case in an iron skillet, or shallow pot, which is put over the fire, and when hot enough the soldering is finished with the mouth blow-pipe; then, after waiting a few moments till the heat somewhat subsides, he submerges the case in boiling water, and lets all remain until nearly cold, when, on removing the case, it is found quite clean and free from the investment. By this process, he states, his plate does not spring, at least he never has a misfit that he has not been able to correct on the cast; this may be owing to the fact that the sand and plaster, being detached on immersion in the water, the case is relieved from their contractile force.

Another important point he thinks is gained, which is, that the gums of the teeth are not nearly so liable to chip off or flaw, which so often occurs, and which may be owing, perhaps, to the cooling being much more gradual.

We should have some fear of the result if the case were instantly plunged, even into boiling water, after soldering; and we think a moment or two should elapse before this be done, that the case may cool somewhat. We hope this will be thoroughly tested. J. R. M'C.

Springing of Plates.—We suppose every one has experienced this difficulty. The complaint, at least, is general, and how to overcome it has been the question which the pages of the Dental News Letter, and the other dental periodicals, can amply testify. Plan after plan has been suggested, and yet it still exists; but we have recently been shown a method, invented and patented by Dr. J. K. Riekey, of Keokuk, Iowa, which promises to relieve the difficulty, and which is somewhat as follows: Strike up, in addition to the gum plate, and upon the same models, a narrow plate, (say half an inch wide,) covering the alveolar ridge, but allowing a portion of the base of the teeth to rest upon the gum plate. Upon this narrow plate the teeth are soldered, after having been fitted with both plates in position. After

being soldered, the narrow plate, if sprung, can be burnished down to the gum plate, or, in other words, restored to its original position, and is then attached to the gum plate by rivets through both plates. It will be noted that the gum plate is not heated at all. The Doctor claims, first, that the plates can be made very much thinner than usual, therefore that less material will be needed, and yet have abundant strength; and second, the certainty of a perfect fit. We commend it to the attention of the profession.

J. R. M'C.

The Dental Monitor, edited by J. G. AMBLER, M. D., New York, and published at only fifty cents per year.—This is a neat little, attractive quarterly, of twenty-four pages, and devoted, as we learn from the prospectus, to the “mothers, fathers and children of the United States,” and is intended to present subjects under four heads, viz: “Dental, Biographical, Miscellaneous and Juvenile.”

This is decidedly a new enterprise, very comprehensive in design—as broad as the whole continent which we are so prone to call a “great country.” The editor will excuse us for noticing a new coinage which occurs in his leading article—it is the word “dentistical.” Now, if we allow it, we open the door for a whole flood of “bogus;” as, for instance, *chemistical*, or, to make it more euphonious, *chemichestical* and *surgistical*, etc., etc.

We await impatiently for the “intensely interesting story, by Prof. J. H. Ingraham, entitled ‘The Milliner’s Apprentice, or the False Teeth,’ ” which is underlined for the May number.

We cannot forbear a guess at the plot of this, or some other kindred story yet to be written. A young gentleman, (the hero,) handsome, manly, etc., accompanies a lady friend to her milliners, and while there discovers and admires (particularly the teeth) the apprentice girl, (the heroine,) a young lady of great personal attractions, (particularly the teeth.)

Chap. 2.—He woos and wins her, (particularly the teeth,) she nobly consenting to leave the shop, (but not the teeth.)

Chap. 3.—After marriage, he gradually discovers many false embellishments, (particularly the teeth.) He upbraids her for her transparent deceptions, (particularly the teeth.) A scene ensues, with much bitterness on both sides, and a general smash up (particularly the teeth) ends the chapter. [To be continued.]

It will be observed that this story may be made “dentistical” or otherwise, by the addition or omission of the teeth, and would assimilate beautifully with the yellow *kivered* literature of the day. But,

seriously, (and we trust we may be pardoned the digression, as we merely wished to try our hand,) the publication, we hope, will render some good in informing the great public, for whom it is *especially* intended, of their interests in this connection. J. R. M'C.

N. Y. Dental Recorder.—We have received copies of this periodical for January and February. We had lost sight of it for some months, or since Dr. A. Hill ceased to be its editor, but we are pleased to see the name of an old acquaintance and former correspondent—Dr. Chas. W. Ballard—as editor, and we here extend to him the right hand of fellowship, and wish him all the pleasures, without the annoyances, usually attendant upon the position he has assumed; and abundant success. One little error he has fallen into we are sure he will thank us for correcting, viz: that instead of “twenty-nine” matriculants at the Philadelphia Dental College, there were “thirty-four, all good and true men,” as we are credibly informed. J. R. M'C.

Trial and Conviction of Dr. Stephen T. Beale, with the letters of Chief Justice Lewis, and Judges Black and Woodward; also, letters of Prof. Gibson, Prof. Wiltbank, Wm. Badger, Esq., Wm. L. Hirst, Esq., Rev. Albert Barnes, Dr. Henry A. Boardman, &c.

This is a recent publication, in the form of a pamphlet of some thirty pages, in which is given a short history of this very important trial; with copies of many letters from various persons, addressed to Governor Bigler, strongly expressive of their belief in the innocence of the accused, and urging executive clemency. We make a few extracts from the letters of parties in professional and official life, which we think must carry great weight.

“My opinion is, that Miss Mudge, was laboring under illusory ‘sensation.’ * * * The whole impression of an outrage of her person, was an illusion, the result of an imagination and perception, bewildered and clouded by etherization, and of her approaching monthly period. This opinion is supported by hundreds of recorded cases of etherization, wherein illusions equally decided have been induced by the administration of ether.

DR. F. A. VAN DYKE.”

“A witness unable to *see*, or to *cry out*, or to *perceive* the personal contact absolutely necessary for such an act as she imagines took place on that occasion, and this incapacity produced by ether, is in my opinion incompetent to narrate anything that occurs while she is in that state. * * * Were it not that the subject is a solemn and grave one, I would say that this is perfectly ridiculous. It is not such evidence as in my opinion justifies a conviction. * *

That she was in error, I really believe, and so believing, if I had the power which is reposed in the Executive, I would grant a pardon.

CHIEF JUSTICE LEWIS."

"The case of Dr. Béale, you will admit to be a most awfully hard one if he be not guilty. How are we to judge whether he is guilty or not, except by the evidence given on the trial? * * * *

"But is it not clear that the conviction was an error? An honest error, of course, but still an error. Think, for a moment. This man is convicted of an infamous and most atrocious crime, alleged to have been committed under circumstances which make it in the highest degree improbable. It becomes still more difficult to believe the accusation when we reflect on the conduct of both parties before and immediately afterwards. How is this overcome? All the improbabilities of the case might be met by the clear, direct testimony of a witness who *knows* the fact. But no such evidence was produced. The prosecution called a woman, who at the time of the occurrence to which she testifies, could *know no more of what was going on than if she had been at the Antipodes*. There is no evidence, *at all*, unless we take that of a woman who swears to very little, and whose faculties of mind and body were totally suspended, when she supposes she saw or perceived the little she does swear to. When a conviction takes place without evidence, it is the duty of a Governor, to rescue the victim immediately, from a punishment which is wrongfully inflicted.

JUDGE BLACK."

"I feel free to say, that I never read or heard of a ravished virgin behaving after the fact, as Miss Mudge described herself to have acted. * * * *

"I think no man, before Dr. Beale, was ever convicted of a rape on the testimony of a woman whose conduct *not only afforded no corroboration of the principle fact, but which was so inconsistent with it*.

"Then, as to her capacity to detail what occurred while she was under the influence of the drug; I conceive it was no more trustworthy than that of a person dead drunk. * * * *

"Was any citizen ever before convicted of a rape on the unsupported testimony of such a witness? I think not. * * *

"On the following distinct grounds I would recommend that Dr. B. be pardoned: 1. That the amount of evidence required by law to convict of rape, was not submitted to the jury. 2. That the only witness to the principal fact was as completely disqualified to relate occurrences as if she had been drunk, and being uncorroborated by the usual legal tests, her testimony was inadequate for conviction. 3. The scientific discussions to which the case has given rise, demonstrate the insufficiency of the evidence, and the insecurity of human liberty if this case be permitted to stand as a precedent.

"Thus, my dear sir, I have very briefly put on paper the substance of our conversation. I do not know the parties, and have no feeling in the matter except a desire that the law should be vindicated. The Court proceeded conscientiously in the lights before them; and all due respect is to be entertained for their judgment, but from all that is now before the public, I believe they erred, and you alone can correct the error.

JUDGE WOODWARD."

"Understanding that petitions are about to be presented to your Excellency in behalf of Dr. Beale, of this city. * * *
I beg leave to add my name to those who pray that the sentence may be remitted. * * * * *

"I have, indeed, no evidence in the case which is not before your Excellency in the report of the trial, but I may be permitted to ask your attention to two circumstances in the case, showing my own belief, and I think the belief of a large portion of the community, that the evidence was not such as to establish the proof of his guilt.

"One is, that the condition of the only witness in the case, the female on whom the outrage is alleged to have been committed, was such, being under the influence of ether, as to make her testimony insufficient to convict a man of so high a crime, and that her own deportment, subsequently, showed that she had no real *consciousness* that such a crime had been committed on her person.

"Under these circumstances, I beg leave to express my earnest conviction of the innocence of Dr. Beale, and my belief in common with that of a large portion of this community, that the interests of justice would not suffer if the sentence were remitted, and to pray that he may be discharged from this sentence, and restored to his family and the community.

ALBERT BARNES."

"Is it right, allow me to ask, to convict such a man of so heinous an offence, and doom him and his family to infamy and ruin, upon the evidence of a single witness, and that witness in a state of unconsciousness?"

PROF. WILTBANK."

"HIS EX. GOV. BIGLER—*Dear Sir*:—At the request of a number of intelligent and influential gentlemen of the medical profession, the pulpit and the bar, I take the liberty of addressing you on the subject of Dr. Beale, convicted most unjustly, as I firmly and conscientiously believe, of a rape on Miss Mudge.

"After a patient and untiring investigation of the case, without any prejudice against or in favor of either party, I have arrived at the conclusion that Dr. Beale is an *innocent* man, and that Miss Mudge, from beginning to end, has been laboring under mental illusion, the effect of the inebriating influence of anæsthetic agencies. I would add, that I was the first to employ ether in Philadelphia, and that for several years I have used it in private practice, and before hundreds of students in the operating theatre of the University, upon a vast number of patients, young and old, male and female, with the most singular, varied, and delusive effects, but not in a single instance have I found the muscular power diminished or destroyed in one part, and remaining perfect in another. In other words, I have never known a patient to retain the muscular power of the *eyelids and lose that of the limbs*, as stated by Miss Mudge, upon the trial of Dr. Beale, to have been her case.

PROF. GIBSON."

"But I unhesitatingly say, that in view of all the circumstances connected with this extraordinary case, I would not have sentenced him upon the finding of the jury who tried him. It rests with you to say whether, influenced by such or similar considerations, you will exercise the prerogative of mercy.

WM. BADGER, ESQ."

"Since the sentence of Dr. Beale, I have turned a good deal of my attention to the evidence given in the case, and the state of public feeling upon the subject, and am of the opinion that it would be a judicious exercise of your constitutional power to grant a pardon. There is a general feeling that *perhaps* the offence was not committed; that *may be* the young lady at that particular time may have been under a delusion; in short, that it is totally wanting that firm belief of guilt which ought to accompany even a conviction of such a man for a high crime.

W. L. HIRST, ESQ."

"I have seen none of the petitions which are said to be in circulation, nor has any one asked me to address you: I do it simply on the prompting of duty—duty less to Dr. Beale than to the community at large. * * * The position I lay down is this: that *if the principles which ruled this trial are to be sustained, no man's reputation or liberty in this State is safe.* Dr. B. was convicted on the testimony of a single witness, who was *under the influence of ether* at the time the imputed outrage, to which she testifies, took place. Not to advert to the inconsistencies in her own subsequent conduct, there was *no medical* examination of her person, no examination even by her own *mother*, nor was there a solitary witness to corroborate her statement. A very slight acquaintance with the effects of ether upon the human system, might seem sufficient to draw this testimony into discredit. In conversing, a few days since, on this subject with my physician, *Dr. Hodge*, whose reputation, as you know, belongs not to Philadelphia but to the *Union*, and whose excellence as a Christian is commensurate with his professional skill, he said to me, in the most emphatic terms, that he would not have believed Miss Mudge's testimony under oath, and that no *physician* was safe if men were to be convicted of crime on such authority as that. This, I am told, is the feeling also among the *Bar*. Waiving the question of Dr. B.'s guilt or innocence, the sentiment is that the verdict was not warranted by the *evidence*. * * *

REV. DR. H. A. BOARDMAN."

In addition to the above, there are many extracts given, from the letters of dentists and others, also, the titles of various medical periodicals and journals, all entertaining and urging the same views. As a whole, it embodies the strongest and most general expression of interest in the accused—a belief in his innocence, and a desire for his pardon—that could be expected or desired by his most interested friends.

If any one, after reading the pamphlet, should ask the question, "why did the Governor withhold a pardon?" the only answer we can give, is the intimation furnished us by the publication itself, viz: from "*a political aspect of the case.*"

If such was the motive, we can only say, the subject is too pregnant with painful reflections to venture a remark upon, and we would therefore refer the matter to those curious to know how far political considerations may warp the judgment and obliterate the better nature of man.

J. R. M'C.

COMMENCEMENT OF THE PHILADELPHIA COLLEGE OF DENTAL SURGERY.

The Third Annual Commencement of the Philadelphia College of Dental Surgery, was held at the Musical Fund Hall, on Wednesday evening, February 28th, before a very large audience.

The exercises were opened with an eloquent prayer by Rev. Dr. Dowling. The Degree of Doctor of Dental Surgery was conferred upon the following gentlemen:—D. S. Hutchinson, Pa.; Jeremiah Hayhurst, Pa.; E. G. Cummings, N. H.; Samuel Walton, Pa.; James Bryson, Tenn.; James A. Butner, N. C.; David W. Hogue, M. D., Scotland; Daniel McFarlan, D. C.; Vinecome Shinn, Pa.; John Levering, Jr., Pa.; Jethro J. Griffith, Pa.; Jacob S. Simmerman, N. J.; Joseph P. Cornett, Pa.; Aurelio Letamendi, Cuba; W. H. Freeman, M. D., Pa.

The Honorary Degree of Doctor of Dental Surgery was conferred upon Hudson S. Burr, M. D., of Philadelphia.

The usual Valedictory Address was delivered by Prof. Robert Arthur.

The exercises were enlivened by a band of music, under the direction of Mr. B. C. Cross.

After the commencement, the Faculty, the class and a number of invited guests, amounting to about one hundred, assembled at Parkinson's saloon, where an elegant collation, on temperance principles, awaited them. Many good speeches were delivered. Dr. J. D. White, the Dean, was called on, but merely made a few remarks alluding to his position, which, although it did not preclude him from speech-making, yet made his duties lie in another direction—that of welcoming and seeing to the enjoyment of the guests. The evening passed away in the happiest manner, and the company separated, well pleased, at a late hour.

J. R. M'C.

Springing of Plates.—A correspondent writes, “in order to obviate the difficulty heretofore experienced in the springing of plates, when soldering on the teeth, it is only necessary to coat thickly with kaolin, the inner and outer surface, of so much of the plate not in contact with the solder. This method we have found entirely successful.”

A correspondent writes us, that a short time since, he extracted a left inferior dens sapientiae, which had four distinct fangs, two of which were three-eighths, and two one-quarter of an inch in length, the two longest diverging considerably.

The complete Dental Register, for keeping a minute account of all dental operations whatsoever, being also a perfect Protective Record, etc. By G. H. WATERS, D. D. S. Published by Bronson Brothers, Waterbury, Conn.

This is the most elaborate arrangement, for a dental record that has come under our notice. It gives a separate column for, and a cut of each tooth in the mouth, and numbers them. Also, columns for *date, name, residence, memoranda, dollars and cents, and remarks*. With index and pages numbered, making a book of over four hundred pages, of good paper and beautifully bound; the whole forming a very comprehensive, well-arranged system. They are for sale by Jones, White & McCurdy.

Obituary.—We notice with sincere regret, the death of Mr. Peter Ebert, dentist, of this city, of pulmonary consumption.

Mr. Ebert, by honest and earnest endeavor, secured and enjoyed, a fair practice and the respect of his professional acquaintances. His loss will be deeply felt by a large circle of friends and former patrons.

It is made our duty, also, to announce the decease of Dr. W. R. Scott, of Raleigh, N. C.

We have pleasant recollections of the deceased, and shall ever admire his strong love for his profession, and his liberality in its support. Peace to their ashes.

J. R. M'C.

Death from Chloric Ether.—We notice the death of a lady from chloric ether administered to her by her dentist, at Lynn, Mass. We are pleased to see that the coroner's jury exonerated the operator. For want of space, we are compelled to postpone the particulars till our next issue.

J. R. M'C.

Ear Syringe.—We notice that Dr. S. P. Hullihen, of Wheeling, Va., a gentleman well and favorably known in the dental profession, has invented a very ingenious ear syringe, which is highly commended in the medical journals.

Engagement Book.—We have before us a very admirably arranged little book for the above purpose, to which we would call the attention of the profession. For sale by Jones, White & McCurdy.

Vermont Dental Society.—We notice, with pleasure, the recent organization of this Society. There should be such in every State of our Union. We wish it a long and useful life.

THE LATEST INTELLIGENCE FROM THE CRIMEA—FROM OUR SPECIAL CORRESPONDENT.

CAMP BEFORE SEBASTOPOL, March 14, 1855.

To his Excellency the Superintendent of the Military Hospital :

It gives me much satisfaction to inform you that the Philadelphia battalion, lately invalided and confided to your care, reported themselves for duty this day, and being paraded, were found ready to meet the enemy, and in as sound health as when they left their native shores.

RAGLAN.

I am directed to inform you that the promptitude and despatch with which this corps has been restored to active service, will be duly reported in the proper quarter. You are authorized, meanwhile, hereby to draw on the Military Chest at your discretion.

A. J. S., *Command't of Battalion.*

The reader will no doubt be quite as much surprised as we were, at the information of a "Philadelphia Battalion" in the Crimea, and will probably exclaim, "here is intervention with a vengeance," or "a very palpable filibustering expedition." But, lest the war spirit should become general, especially with young America, we will endeavor to explain away the whole affair, as follows:—

A gentleman in an official capacity at Washington, having occasion for the services of a dentist, called upon a friend of ours in this city, (Philadelphia,) who fitted him up a very neat operation with blocks, which, after considerable use, became "invalided," or, in other words, somewhat "loose" in their habits, when he returned them for repairs; and on the receipt of them, in as "sound" a condition "as when they left their native shores," sends the very neatly conceived and expressed letter, as above.

Now, with this explanation, on a second reading the parallel and point will be seen in a very humorous light.

J. R. M'C.

For the Dental News Letter.

FISTULOUS OPENINGS CURED BY THE EXTRACTION OF DECAYED TEETH.

TO THE EDITORS OF THE "DENTAL NEWS LETTER."—*Gentlemen:*—Should you think the following cases of the least professional interest, you will probably be kind enough to give them a corner in the Dental News Letter.

CASE I. Several years ago a young lady, about 25 years of age, was sent to me by her professional attendant, to consult me regarding a fistulous opening of the left cheek, a little behind the angle of the inferior maxilla, and from which foetid pus had been discharged for

several years, and occasionally the muscles of the face became so rigid that the mouth could only be very partially opened. She had been for a long time under treatment by her surgeon, but without deriving the least benefit. On examining the mouth, I found the stumps of the left inferior dens sapientiæ partially covered by the gum. I was fully satisfied that the disease was caused by the stumps, and recommended their immediate extraction, which was at once done; and, without the aid of any local application to the diseased parts, a complete cure was effected in the course of a few weeks.

CASE II. In the month of June, 1853, a man about 40 years of age, a weaver by trade, was recommended to consult me, by the surgeon who had been attending him, regarding a large indurated tumor which had formed about twelve months previously on the lingual side of the jaw, at the angle of the jaw, near the inferior dental foramen. From the rigidity of the facial muscles, the mouth was for several months nearly closed, and when I first saw him could only be very partially opened. I found, on examination of the mouth, the right inferior dens sapientiæ very much decayed, which I extracted, and allowed nature to take her own way. I saw the patient six weeks after, the tumor was completely gone, and he could then open his mouth to its fullest extent.

CASE III. A young girl, about 10 years of age, was brought to me in the month of November last, with a fistulous opening of the left cheek opposite the first permanent molar, from which pus had been discharged for several months. On examining the mouth, I found the first left inferior molar with the crown completely decayed, which I extracted, and in the course of two or three weeks the fistulous opening was entirely healed up.

A few weeks ago the same girl was brought back to me, to ask my opinion regarding a discharge of pus from the right ear. On looking into the mouth, I found the first permanent inferior molar of that side very much in the same state of decay as the one on the opposite side, which I had previously extracted; and as I had little doubt of the discharge being caused by the irritation produced by the carious tooth, it was also extracted, and with complete success, as it ceased in two or three days, and there has been no return since.

I am, gentlemen, yours respectfully,

JNO. J. WATT, *Surgeon Dentist.*

Edinburgh, Scotland.

[We publish the above with pleasure, and trust we may hear from our correspondent whenever he has anything of equal interest to communicate.—ED.]

For the Dental News Letter.

IS THERE A DEGENERATION IN THE TEETH? IF SO, TO WHAT
IS IT ATTRIBUTABLE?

BY WM. A. PEASE.

Twenty-five or thirty years since dentistry was comparatively in its infancy. None of the improvements we now possess had been made, or if they existed in a crude shape, they were such ghostly simulacra that none but the owl-eyed could discover in them the lineaments of their descendants. From that time to the present the improvements have been so rapid, they have followed so closely upon the heels of one another, we have been filled with a constant surprise, and have found little leisure to examine them and see to what good they conduce, or whither they go.

It will fall within the scope of this paper to examine the condition of the human mouth then, as compared with it at present; to note the several successive changes that have occurred, whether induced by natural or artificial causes; trace them to their sources, and form an estimate of their present and prospective importance, not only as effecting the condition of the mouth, and exerting considerable influence upon it; the habits and physical health of society will be glanced at in different eras, to determine what effect, if any, they exert upon the teeth, or have exerted upon them within the authentic period of dental history. And art will be subjected to a slight inquisition to discover, notwithstanding its pretensions, if society derives from its labors a benefit commensurate with its expectations and the solid dollars it pays for them.

In the absence of dental data and dental records that afford us direct and positive light, we will have to resort to the indirect and unwritten, which, under certain circumstances, are held to be as conclusive and authoritative as the written, and, like the common law, are quoted and respected. Thus, we have no reports founded on the careful collection and digestion of a large number of cases, showing the time that will elapse before decay will appear in a tooth after a set of artificial teeth has been attached to it. Yet few dentists of much experience and observation will doubt that decay will commence, in a majority of cases, within a few years; and in a young subject, though it may be partially arrested by art, will ultimately destroy the tooth.

In taking twenty-five years as the initial of our retrospect, we will not have passed beyond the period of persons now living, who were then on the stage of life and occupying a similar position with their children, now in the meridian of life, whose mouths we wish to com-

pare together ; and we will not be deprived of their auto-dental history, and the means they enjoyed, or had recourse to, to preserve their teeth (if any) as compared with what are now employed.

In so short a period there can be no palpable contrast, but much of that sameness and those general features will be observed, both in lineaments and constitution, that hereditary produces—the children will represent the sire, and this generation the preceding ; and it is precisely for this reason we examine them, to see how closely the resemblance holds good, and if there is a difference, to discover in what it consists, and what are its distinguishing characteristics. Whether, as art and science advance, the teeth partake of the improvement—are stronger, healthier and more enduring, from the increased means for insuring their health which science affords ; or, in despite of the aid of science, there is a visible deterioration—a tendency to contract disease, with less power of resisting it. We have frequently examined the teeth of father and son, mother and daughter, and occasionally we have had three or four generations together, and have taken models to institute a more minute examination at our leisure. In these examinations the hereditary tendency has been observed, and the peculiarities that sometimes overleap one generation to find in the cross of the third, the peculiarity of temperament favorable to their development. At times we have seen the same peculiarities descend continuously in the same family through several generations, as is generally the case, where the family lineaments are preserved. But there was this difference, the physical health and power of resisting disease in the teeth was no where observed to descend with the family configuration and expression. The teeth now seem to be more porous, and to be permeated by a greater number of blood-vessels and nerve filaments ; and we have failed to observe, as is generally inculcated, that these porous teeth eventually become dense. That they increase in density, we are prepared to admit ; that their minuter cells or canaliculi are sometimes obliterated is equally obvious ; but that any length of years, or course of diet, will produce that density of structure which characterizes their ancestors' teeth, is improbable. There appears to be an exaltation of the vascular and nervous dental system that is not hereditary but acquired, which seems under certain circumstances to increase, subject to what limits, if limitable, we are ignorant.

If we recur to New England, where families can be more easily and certainly traced ; where some of the descendants of the first settlers still remain near the original homestead ; where the family history is cherished and better preserved, and the peculiarities of the ancestry

(if unwritten) are handed down from generation to generation, I think we can establish the following points, viz: 1st. In a given population now and twenty-five years since, between the ages of 20 and 30, there will be found a greater number who have lost teeth now than then. 2d. Disease commences earlier and runs a more rapid and destructive course, notwithstanding the greater care bestowed upon the teeth now than then.

Twenty-five years since in the rural districts of New England a dentist was scarcely known, and medical skill had not obtained that celebrity it now enjoys. The physician, it is true, was well read, and a man of parts, but he had not received that discipline, experience and familiarity with disease a modern practitioner can acquire at a modern college. He knew little about the teeth, and attached importance to them only as a grinding apparatus, that occasionally vexed him by requiring a perplexing operation. He studied not their diseases, nor deemed them worthy of study—employed few palliatives, and believed when once diseased there was no radical cure but a radical removal of them from the jaw. Plugging was scarcely known and seldom attempted; the mineral and actual cauteries silenced toothache where narcotism failed. If his medicines were few, his instruments were fewer, and so primitive in construction that only the most favorable teeth could be extracted. The value of the teeth was not taught, because the loss of them was comparatively unfrequent; cleanliness was not inculcated, a reckless use of the teeth for improper purposes was common, and disease once established was unmolested till terminated by the key or the slow progress of decay. Decay was synonymous with the ultimate loss of the tooth, and the loss was an irremediable evil. An artificial tooth was unheard of, or, if heard of, was treated as a myth, as unreal and unsubstantial as the fabulous creatures in the Arabian Nights. If Washington and some other historical persons were known to have worn artificial teeth, they were regarded more as an appendage of state—a part of the paraphernalia of office—more useful as a show than as bread and butter eating machines; such was the condition of dentistry then, and such the condition of the teeth, the nature of their treatment, and their liability to disease. Now, when every hamlet sustains a dentist, and the cities are swarming with them—when the attention of the community is aroused to the importance of healthy teeth, reasoning *a priori*, we must conclude that, *cæteris paribus*, the teeth are seldom lost; that though disease does occasionally attack them, it is soon arrested, its contagious and contaminating effects are removed, and the integrity of the mouth is preserved by the superiority of modern dental skill. Is this true?

The better to institute a direct comparison to determine whether the young now starting in life possess as good physical health and teeth as their early ancestors—whether the lamentable loss of the teeth now so generally witnessed, is the result of a want of skill in dental practitioners, or arises from causes beyond remedial control, we will take that patriarch, the venerable Maj. H——, as a type of the physical and dental health of the earlier inhabitants of this country. He shouldered his musket and followed several older brothers to the army, and helped to win his country's independence, and still lives, a hale old man, surrounded by a numerous progeny, to enjoy the fruits of his early toil. He has recently lost the partner of his youth, manhood and old age. We do not select him as an isolated case, but because we are familiar with his history, have had frequent occasion to operate on the teeth of some of his descendants, and have examined them with that care that enables us to speak with confidence of their condition.

Other similar cases might be easily adduced, but this one will suffice. Maj. H—— was but little above the medium size, strong, healthy and firmly knit—of a sanguine nervous temperament.

His teeth, never white, were of a clear yellowish cast, of a dense structure, and large, for a man of his size. His wife, his equal in years and health, was his superior in fullness of person, though possessed of no extra flesh; her temperament was a nervous billious, and her teeth were as healthy as his own; and within a few years we have extracted some of them, free from caries, but loose from alveolar irritation. If they are credible witnesses, their teeth, when young, were no better than the generality of their neighbors—several of whom we have personally known, among whom toothache was not a common occurrence, and the loss of a tooth was unfrequent.

If we assume, then, that theirs was a fair type of the teeth one hundred years since, as I think we safely can, we will have a starting point, or standard, to which to refer in our subsequent investigations and observations. That their children should possess their characteristics, physically and dentally, will be expected, which they do to a certain extent. The oldest children inherit the father's temperament and physical and dental peculiarities, while the younger more nearly resemble the mother. All of them have lost some teeth, generally unnecessarily, and two sisters have worn partial superior sets since fifty years of age. The one principally from tartar accumulations and alveolar irritation; the other's teeth perfectly antagonized and the incisors became worn away to the gum.

In the children in the next descent, the change in the dental deve-

lopement is more marked ; the size of the teeth is not as great, and there is a plain diminution in the quantity of the inorganic matter they contain ; and, though still large, strong and healthy, they are more obnoxious to the attacks of caries, and require the aid of the dentist to plug them before they arrive at the meridian of life ; indeed, a son and daughter early wore pivot teeth.

Now, it cannot be objected that the children of Maj. II—— married into a less vigorous and healthy stock, and ergo, their children's teeth are impoverished and lack the inorganic matter to interpose a successful barrier to the attacks of disease ; for, there was an equality of dental and physical health in the various families with which they intermarried. Their health and teeth are not above the average of the community in which they reside, while their habits are nearly the same, and their children are subject to the same educational, social and climatic influences as their neighbors, and to the same general hygienic and operative treatment.

We now come to the last generation—the great grand children of Maj. II——. They are not as yet numerous, though some of them have their full denture, and consequently display all the physical and dental characteristics necessary to this inquiry. Again, it is proper to remark, they have been within the pale of the same influences as others of their age, have suffered from like causes, received no better attention, and present a fair average of dental health. If their teeth are slightly above the average in size, there is not sufficient difference to constitute a noticeable feature, nor is the density of their structure, or the perfection of their enamel particularly in their favor ; and there seems to be a predisposition to caries similar to that observed in others of their age, which, if unmolested, would doubtless run a rapid and destructive course.

After this rapid glance at these several generations, we will take a review of them, in order to keep some of the more prominent points in sight—to determine how far hereditary extends and leaves traces of the strong original stock, and how far other equally strong stocks have influenced it, by modifying or obliterating it, or engrafting upon it their own peculiarities.

The two oldest children, a daughter and son, inherit the father's health and temperament, while five younger, two daughters and three sons, more nearly resemble the mother.

The oldest daughter is unmarried. She has suffered little from caries, though within ten years she has lost several teeth from tartar. The oldest son has still very healthy teeth, though he has lately lost a

first superior molar from absorption of the socket; the inferior antagonizing tooth, having been extracted while young. His teeth resemble his father's. His wife, though possessed of vigorous health, has lost most of her molar teeth, and now wears four pivot teeth—the other members of her family are healthy and have better teeth than she has. The children of this pair exhibit a feature we wish to note. The oldest, a daughter, reproduces the paternal grand mother in features and physique, though a little more slender, and her teeth present all of her characteristics in arrangement, color and structure, though considerably less in size. She has suffered little from caries; her teeth are healthy, but there is a strong proclivity to alveolar irritation, which is easily aroused by any exciting cause. The second daughter does not so much resemble the paternal side. She has suffered considerably from caries, her bicuspid and molar teeth were plugged while young, several of which have since crumbled away. They were soft and friable. Her mouth is little inclined to tartar accumulations, or alveolar irritation. The third child, also a daughter, again, very nearly resembles the paternal grand mother. Her teeth are large, regular and particularly strong and healthy, though when quite young she suffered slight attacks of caries, which were easily managed. The alveolar irritation of her grandmother, in her mouth, very nearly disappears.

Here this branch terminates, and we will return to the second daughter of Maj. H——, who we have already observed wears artificial teeth. That her teeth were originally healthy is evidenced by the fact, that she has worn a plate attached to the first or second superior molar for near ten years, without visible injury to them. Like her mother, she has lost several teeth from alveolar absorption, and she has also suffered some from caries.

She was married into a healthy family where the sanguine temperament predominated. Her husband was about her own age. He was six feet in height, and otherwise well proportioned. Blessed with vigorous general and dental health, he never employed a dentist, though some of his molar teeth were extracted by a physician, and the incisors were worn away nearly to the gum. They have several children, some of whom have children whose denture we wish to examine.

In speaking of her descendants, it is proper to remark, that as she resembles her mother, so do also her children, though not so much as the daughters of the oldest son; but in her family the tendency to irritation of the dental socket nearly disappears. Her children have

fair average teeth in size, health and density in structure. They are indebted to dentistry for the preservation of them, and a second son and daughter for the insertion of two pivot teeth.

Her first daughter married into a healthy family. She has a daughter, whose denture is complete. As she is the first one in the third generation, we shall examine her teeth with care.

Her father, Mr. L——, is a healthy, middle aged man, not above medium height, broad and full chested. Originally he had healthy teeth. From neglect and bad dentistry, he now wears a front artificial set, and he has lost several of his molars and bicuspid. The daughter has remarkably fine, regular and large teeth, which in some respects resemble the teeth of both parents, but more nearly the mother's. They early began to decay, and it is probable, notwithstanding great care is bestowed upon them, she will be unable to retain all of them long, on account of their soft consistence.

It will suffice to remark, the three youngest sons of Maj. H——, still retain most of their teeth, notwithstanding they have uniformly neglected them; and they are but slightly indebted to dental skill. Each has a son, who has children, but their denture is not sufficiently advanced to determine its character.

It is no part of our purpose in selecting Maj. H——, as a standard to present an isolated or extreme case. We seek a fair representative of New England people—a type of the age. We do not think he was endowed with a greater measure of health than his early and manly associates, though from accident and disease, they have one by one disappeared; often after passing the three score and ten years. The heads of the families, whose children united with his, though none of them attained quite so great an age, were nevertheless venerable and long lived, and their children show no visible indication why they may not follow long in their course. None of them, or their children, have derived but little if any benefit from dentistry, and their children's children, now between twenty and forty years of age, have not contributed much to dental support; but *their* children now bid fair to present to the profession a liberal honorarium.

The review of the denture of these four generations may be concluded under the following heads:

1. There is a difference in the expression of the children's teeth now, as compared to their early ancestors.
2. There is a difference in the constitution of the teeth; the fourth generation possess less of the inorganic matter than their early sires.

3. There is a difference in the size of the teeth, and the regularity and fullness of the denture.

4. There is a difference in the period and manner of carial attack, its type and the rapidity of its course.

And finally, we think there is a difference in the resistance they offer to luxation.

In discussing the first proposition it is proper to remark, to discover a difference in expression in so small and apparently so unimportant a thing as a tooth, and to divest it of the modifying influence of the features and lips, requires an æsthetical education, and that delicacy of observation such an education alone can produce.

To most people a tooth is a tooth, whatever its form, size or color ; and many medically learned would fail to find in its expression, any indication of its physical character, or health, or of the health of the individual. To us, there is a something in the expression of the teeth indicative of character, which we cannot better describe, than as a sensation or perception akin to that we receive from the contemplation of the features. Conjoined with the features, they are the index of the man. As they are large or small, regular or irregular, prominent or depressed, the expression of the mouth varies and is firm and manly, bold, avaricious, cowardly or puerile. An impoverished stock is not more surely indicated by the want of muscular development, than by the osseous. The first glance satisfies us of the health of the teeth as it does of the temperament of the individual ; and yet, were we asked to designate the condition or indication on which we predicate our judgment, we could only answer, there is no form or tint which determines it ; size, color and regularity alone are insufficient—it is intangible, but intelligible ; it is experience. Perhaps the greatest difference between a naturally healthy and unhealthy tooth, when free from stains, consists in the greater transparency of the enamel of the unhealthy one, it seems thinner, more vitrious—and the body of the tooth also partakes of the delicacy, and seems more penetrable to light. There is often a bluish or purple color, sometimes mottled, and seldom a clear white or yellow as in healthy teeth. Generally they are stained, which obliterates the natural expression and gives them a dull, opaque, or chalky appearance.

(To be continued.)

See Advertisement of Philadelphia Dental College on cover.

THE DENTAL NEWS LETTER.

VOL. VIII.

PHILADELPHIA, JULY, 1855.

No. 4.

VALEDICTORY ADDRESS

Delivered February 28th, 1855, before the Graduating Class of the Philadelphia College Dental Surgery, Session 1854-5.

BY PROFESSOR R. ARTHUR.

The period has arrived, gentlemen, when the relations which have for some time existed between us are to cease. To me, and I am sure I can say as much on behalf of my colleagues, these relations have been of the most agreeable character.

You have passed through one period of your career, and are just entering upon another. You have, heretofore, been acting under instruction; now, under the guidance of your own understandings, you start forth in life, and, beyond the just requirements of the community in which you may be placed, are accountable to no one but to Him who holds our existence in his hands.

But now, unquestionably, the most important and anxious part of your career commences. You no doubt have been told, as we all have been, that you are now departing from the Elysian fields of youth, and are about to enter the broad and sterile plains of real life, where you must work with earnest purpose, and unflagging energies, even when disposed to faint upon your weary limbs, in order to obtain that which is necessary to sustain the free life you have so much coveted.

But suffer no weak forebodings to cast a shadow upon the pathway which lies before you. Life, in all its positions, has its cares and anxieties, and demands faithful, earnest labor from every individual; but no man who is unwilling to meet, steadily and firmly, these necessary cares, and engage heartily in the struggle of life, is worthy of enjoying the satisfaction which attends a free and independent existence.

It is well, however, that you should pause here, and look out a little way into the future, and inquire how you may best avoid the obstacles, and overcome the difficulties which lie before you.

You commence life, gentlemen, under favorable auspices. Citizens of this happy land, where every man, restricted only by the circum-

stances in which Providence has placed him, and by his obligations to others, is at liberty to follow the bent of his own inclinations, and to enjoy, in its fulness, the product of his own honest labor; where none dare attempt to oppress, or to invade the sanctuary of his individual rights. Happiness and comfort is in every dwelling, except, indeed, where it is driven out by selfishness or cherished evil, or by afflictions over which man can have no control. My heart swells with gratitude to the Giver of all good, often and often, when I think of the happy circumstances in which a good Providence has placed us, whilst in so many parts of the world hard, grinding, oppression crushes freedom of action, and even freedom of thought. Set your faces, gentlemen, through life, if you value the blessings of peace and liberty, if you value human freedom throughout the world, set your faces against insane attempts, made under the plea of a wide spreading philanthropy, but generally springing from narrow prejudice, the result of ignorance, or from selfishness, to subvert this happy order of things, and to substitute in its place a policy leading we know not where, but leading, we surely know, toward not only an uncertain, but a dark and threatening future. If evils and wrongs have a place in our political system, the feature is one that must present itself in all human systems. In every individual evils mix themselves up with the good, and it would be just as rational to take away the life of an individual because he possesses some evil traits of character, mixed with a great deal of good, as to subvert the present order of things in this country because some of its features may appear to be, or may be, wrong. Time and the true interests of the world will eventually set right all arrangements which conflict with the widest freedom of the individual. It is a recognized truth, that the very best way to get rid of some disorders is to let time and nature work out the remedy. There is a *vis medicatrix naturæ*, as well in society as in the animal economy, and the political doctor, as has plainly shown itself in many recent reform movements, often does as much harm by officious intermeddling with the course of things, as the injudicious physician, who doses his patient to death, in vain attempts to cure a disease which nature alone is capable of relieving.

With the exception of some evils, the remedy for which is not yet clearly apparent, peace, happiness and prosperity surround us. In every branch of industry, in every profession—except at those seasons when, unaccountably to men at large, a general monetary depression comes on—there is a demand for true service. No man of enterprise, energy and integrity, let his occupation be what it may, can fail to

obtain remunerative employment. And of all the callings in life I do not know one which, with the same amount of capital, will so surely and speedily yield a return, as that in which you have engaged. It is a mistaken idea, prevailing in the community, that our profession is crowded. It is true that it is overrun with those who, from unpardonable incompetency or dishonesty, inflict injury where they promise to do good, and thus retard its advancement, and contract its means of usefulness. But, there is no community to be found which does not stand in need of the services of competent and faithful operators in our profession. No matter where you may take up your position, you will find this to be true.

I say with confidence, then, that you have a right to look for the successful issue of your efforts, if they are properly directed; and I propose this evening, in a few plain words, to present to you some of my own views of what I consider the most certain and speedy means of securing this success.

I greatly fear that what I shall think fit to say to you on this occasion, will afford but little entertainment to this large audience; but I feel so strongly the necessity of addressing myself especially to you, that I must beg to be pardoned if I should sacrifice entertainment to utility.

The first requisite of success, in any calling, I need scarcely say, is thorough preparation for its exercise. In your own case you have availed yourselves of what you have considered the best means of making this preliminary preparation.

You have not only been instructed in the principles of the profession in which you are about to engage, but you have had abundant opportunities of witnessing the performance of the difficult and delicate manipulations upon which the successful treatment of the peculiar class of diseases which come under your hands, is to be conducted. You have not only been shown how these operations are to be performed, but have been able, so repeatedly, to use your own hands in this way, under the direction of proper instructors, that you are well prepared, with care and attention to what you are doing, to engage, upon your own responsibility, in the practice of your profession.

But, gentlemen, let me strongly urge this matter upon you: your success in practice now, and your future standing in the community, will depend upon the care and pains with which you perform the duties that your calling imposes. You cannot fail to understand that the period which you have devoted to the purpose of learning how to perform these difficult operations, cannot have given you that facility of

manipulation which you may have observed others to possess, for these individuals may not only have been peculiarly fitted, naturally, for their calling, but they have also had the advantage of many years practice in it. There is not a man among you—and, no matter what your natural talents in this way may be, it is long practice alone that can give you superior skill,—believe me, who can succeed in performing operations which will be creditable to him in the eyes of the profession, or which will give him reputation in the community, unless he is willing to devote to them, in the beginning, at least, a great deal of time and labor.

Look round you and observe those who hold high rank as operators in our profession ; who have been eminently successful in everything which constitutes desirable success. How has it been with them ? I can assure you that, with few exceptions, their success has been the result of the careful, patient and laborious exercise of the profession from the outset. I scarcely know a single exception where a man has acquired reputation among members of the profession—who are of course the best qualified to judge—who has not acquired it in this way.

You must not forget, gentlemen, as you have repeatedly been shown, that, in the majority of cases, preservative operations upon the teeth require the greatest care, in all points, to bring about a successful result, or to render any material service. This implies an expenditure of time ; these operations cannot be hurried over, even by the most experienced operators without frequent failure, much less by you. Many of you, in the commencement of your practice, will have time on your hands : make good use of it, in the way here suggested, and my word for it, you will find that it will yield you an abundant return.

This may seem to you to be a little matter to urge so strongly, but time will show you its importance. See how few men in the dental profession, out of the large number in its ranks, acquire reputation as operators. The necessary manipulations, although in many cases exceedingly difficult, are, generally, not nearly so difficult as those which are performed daily, by men in a thousand other callings. And why is it that the result in our profession is so often imperfect and valueless ? It is not to be attributed, as some suppose, to a deficiency of skill, or rareness of peculiar fitness for its exercise. It is, gentlemen, my firm conviction, and I feel bound to make this statement to you, owing *to the low standard of practice*, which is admitted, and the consequent careless and imperfect manner in which these operations are performed. And I urge, confidently, upon you, this consideration at the very outset of your career. If you have the ambition to reach

the highest kind of success in the practice of your profession, do not follow in this beaten track.

Now, you may suppose that you can go on and render as good service as the ordinary standard of the public estimation of your calling demands, and all will be well, even if you have not accomplished such perfect results, as you know to be in your power. You may suppose the public to be unable to judge in this matter ; and, indeed, you may be able to convince such persons, as fall into your hands, that failure, when it occurs, is the result of causes beyond your or their control. As failure is of such common occurrence, you may suppose it will not seriously affect you in the estimation of the community ; and even if a patient, now and then leaves you, his place will be filled by others. But there is this to be kept well in mind. You must not forget that your work can never remain in the dark ; sooner or later it will come under the inspection of persons capable of judging. It will be seen by members of your own profession. And let me tell you, gentlemen, there is no surer passport to speedy success than the confidence of those who are engaged in the same calling with yourself. The public understand this matter very well ; it is well known to every individual of intelligence, that the assurance of competency of a member of standing in the same profession in which an individual is engaged, is worth all the certificates in the world from those out of it, no matter what, or how high, their standing may be. You may rest assured, too, that it is a mistake to suppose that you will be regarded with jealousy and suspicion by the better members of your calling. In all professions, indeed, I am convinced, there is a willingness to render the meed of praise to true merit.

You are all more or less familiar with the name of a gentleman from this city, a pupil of one of my colleagues, who has met with very rapid success in Paris, within a few years past. Do you know the secret of his quick success ? It is nothing but this : he performed with great care some beautiful operations, which at once commended him to the confidence of a dentist who had already acquired a reputation in that place, and who at once introduced him into practice.

I have known, I assure you, gentlemen, repeated instances of this kind. I have known a number of cases where men of character, and standing, and acknowledged skill in their profession, acquired in this way, alone, have come to a city with scarcely a single acquaintance, and at once obtained business, simply because they possessed the confidence of their fellow-practitioners.

You must not rely at all upon the fact that you have taken the

course of obtaining a knowledge of your profession approved by the most intelligent and most eminent who are engaged in it. It may, and I believe it will, commend you to their favorable consideration, but they will not, at once, take for granted your integrity and skill; on the contrary, you will be watched with a more jealous eye on that account, and little allowance will be made for your short-comings, because more will be expected from you.

I have, thus far, been speaking of the necessity, in the outset of your practice, of using every effort in your power to acquire skill in the manipulations of your profession, and have strongly insisted upon the utmost care and attention in accomplishing this object.

But, gentlemen, although an essential feature of our profession, you have been shown that this is not all. You cannot fail to know that a man may be a very superior operator, and a very poor dental surgeon. Any man with that skill of hand which is natural to so many persons, may manipulate with more facility and more beautifully than the most intelligent member of our profession, but if this be the extent of his acquirements, his sphere of usefulness will be very limited, and cases must frequently occur where injury instead of benefit will be a consequence of his beautiful operations. Every dentist of experience will tell you that I am uttering the simple truth, only, in making this statement.

One of the strongest reasons, indeed, which have made necessary the establishment of colleges in our profession is, that it involves, necessarily, general principles which must be taught systematically in order to be taught clearly.

Great pains have been taken to instruct you in that department of your profession which enables you to understand, yourselves, and explain to others, the nature and causes of the diseases of the teeth themselves, and those disorders of the general system to which they so frequently give origin, as well as the *rationale* of their treatment. But in this direction, gentlemen, you are not to relax your efforts, if you aim for the highest kind of success in your profession. Although time and labor have been expended in directing this branch of your studies, but little more has been done, as has been frequently insisted than to put you upon the track which you are to follow out yourselves. Wide uncultivated fields lie before you. These you should explore and work with assiduous industry.

I need scarcely say to you—for this is a lesson you have already well learned—that you should read everything which may appear to have a bearing upon your profession, and you will be surprised to find

how wide a range you may take. But read thoughtfully, or not at all—for it will be much better to employ your hands in some way, than to waste your time in taking into your minds, listlessly, words which make no impression, and which do not perform their legitimate work of imparting or suggesting new ideas.

It is, with some, a question whether, engaged in such a pursuit as ours, attention should be confined to that class of books which seem to have a more immediate bearing upon it, (I mean scientific books,) which present principles in their various phases and applications. These, in their widest range, should be carefully studied by the dental student; but, in so doing, he should not neglect to employ every favorable moment for obtaining an acquaintance with general literature. Besides the immediate delight which it yields, it accomplishes the useful purpose of refreshing the mind after application to more severe studies. It, also, contributes more largely to success in practice than at first appears. You will necessarily be brought into contact with cultivated people—into close and intimate association with them; many hours will necessarily be spent with your patients, and the friends who may sometimes accompany them to you, and you may at least do much to render this time less disagreeable, if you are able to converse intelligently upon topics of general interest.

One of the first and most important elements of success is the study of general scientific principles, and their thoughtful application to your practice. When you have spent some years in doing this, you will be surprised at the result—you will find that the whole range of the sciences have a relation to, and a most important bearing upon, the operations which you are daily called upon to perform. I was struck with a remark once made by a gentleman, distinguished in our profession for his intelligence and skill in practice, and his inventive genius. He had been for some time engaged in perfecting an invention, than which nothing could seem to have less relation to our particular pursuit—an improved gun. "Sometimes," he said, in substance, "I almost wish that I had never had anything to do with these things, as they have caused me a good deal of vexation, and have distracted my mind from my profession, in which I feel a warm interest. But I find that I lose nothing even in this way, for every hour I spend in the study and application of mechanical principles to the work upon which I am engaged, enables me to operate with greater facility and success." This has also been my own experience—and I only relate this fact to enable me to say to you with more force, that it is better to cultivate habits of study, even if your attention is directed in a

path apparently leading away from your immediate pursuit. All scientific knowledge acquired will certainly some day be of use to you, and, if you have a real love for your profession, you will eventually return to it with renewed zeal and improved powers.

There is nothing, as I have so often reminded you, more important to the successful practice of our profession, than close and careful observations of facts and results. All true and reliable theory, I have insisted many times, in the course over which we have just gone together, must be based upon observation. The dental profession has advanced with rapid strides during the last ten years—it has risen from obscurity to its present more than respectable position—but there is much yet to be done. There are many points, important to correct practice, which are yet unsettled, and which can never be determined except by long continued steady, and systematic observation. But it is not only necessary that you should observe and think of the instructive facts which must present themselves daily to you, but you should record your observations, so that from a series of facts, with all their attendant phenomena, which would certainly escape your memory if you trusted to that alone, you may at last be able to draw general conclusions, which will throw light not only upon your own practice but upon that of others, and enable you to make more rapid advances than you could otherwise do.

To render this feature of your labors more valuable, you should acquire the habit of committing to paper, not only your facts, but the thoughts and reflections to which they give rise. Cultivate sedulously any ability which you may have of writing clearly and correctly. Few things will contribute more to your usefulness, and, indeed, to your advancement, than this. It will force you to abandon a discursive and wandering method, and acquire a habit of precision of thought. And when valuable thoughts occur to you it will enable you to elaborate them with better effect, and place them at the disposal of others, no matter how far distant they may be from you. But if you venture to write for publication, digest well your thoughts and do not publish anything merely for the sake of getting your name before the profession. It is much better to remain silent, unless you are well satisfied that you are able to add something to the common stock of knowledge. But do not hesitate to contribute freely anything of value which may occur to you in your practice, in the fear that you may not be able to write as well as others, or as you desire. It will be well for you to remember that few persons read an article so critically as the author himself, and that our periodicals are not

magazines of elegant literature but are merely vehicles for the conveyance of information relating to our profession. Endeavor to express yourselves clearly, and avoid all flourishes of language, which are in bad taste when introduced into plain matter of fact subjects.

With regard to what you have been taught, and new methods, suggestions and theories presented to you, think independently. With an honest, modest desire to discover the truth in all cases, do not allow yourselves to be bound down by commonly-received opinions unless you are convinced that they are based upon truth. Do not be afraid to controvert error when you have discovered it, although the whole profession, or the whole world condemn and scoff at you for doing so. Some of the most absurd speculations have often been entertained for years as sacred truth, and any attempts to place them in their true light has been visited with persecution. But, eventually, truth has prevailed, as it always will prevail.

And here let me warn you of a great fault common to young men—do not over-estimate yourselves and your acquirements. There are few things more offensive—there is no greater obstacle to advancement—than vanity. Be faithful, earnest, independent, but modest, searchers after truth. Be satisfied that there is no surer mark of a little, narrow mind, than vanity. Let your acquirements be as great as they may be, you will understand, (if you do not look at, and think of yourselves rather than at the great universe,) that you are only thereby enabled to obtain a larger view of the infinite field of knowledge, and you will better understand how trifling, how meagre, how insignificant, in comparison, are the few things which you have picked up on its very margin.

Be cautious about generalizing too soon. Form theories yourselves, as cautiously as you receive them from others; it is dangerous employment, for it too often leads men out of the way of truth, and induces them often, unconsciously to themselves, to distort facts to establish their favorite opinions. But do not fall into the opposite extreme of merely practical men; do not despise correct theory, for upon this is based all considerable advancement in any pursuit. Theories are, or ought to be, nothing more than truths drawn from the combination or generalization of a large number of recognized facts, and they, eminently, when rightly used, aid us in our advances, and keep us from the errors which beset the pathway of mere empiricism.

What I have been saying, thus far, has had reference especially to yourselves; I come now to the consideration of your duties towards your fellow laborers in the calling you have adopted.

In the first place, my friends, now in the very outset of your career,

determine that you will practice your profession liberally ; it will do more to insure success, believe me, than the narrow-minded, selfish policy which throws a drag upon general advancement. Associate freely with all honorable gentlemen you may meet ; impart freely to them anything of value which may occur to you ; scorn the miserable practice of keeping anything secret for your own exclusive benefit, or from appropriating exclusively the profits of any discovery in your profession.

But whilst you associate freely with all honorable members of your profession, avoid intercourse with those who are dishonest, and who remain wilfully ignorant. Do not recognize them as members of the same calling. Show, as far as you are able, to the public, that your profession is not in any way responsible for their deceptions and injurious practices. Do not hesitate to state clearly and frankly your opinion of any of their practice which comes under your hands, when good is to be accomplished by it. Do all you can, by imparting correct information to your patients, so to enlighten them with regard to our profession as to enable them to detect the more glaring impositions which are practiced. There is scarcely a more important duty which you can perform than this, and it is the most certain way of breaking down the system of imposture which prevails so extensively in this country. But in endeavoring to do this be careful to avoid making a display of your technical learning. Use, as little as possible, the terms employed in your profession, but not familiar to the community, and say in plain, simple language all you have to say. Intelligent people, the class most desirable as patients, are not to be imposed upon by these things, and even if they have reason to confide in your skill in practice, will secretly laugh at you for your sapiency.

But, whilst you condemn bad practice, be careful to give full and hearty credit to that which is faithful and good. It is a short-sighted policy which supposes we are benefitted by disparaging others in any case—particularly in our profession. All you can do to add to the general confidence of the community in the value of the resources of our profession, will tend to increase your own practice.

Before leaving this part of my subject there is one important matter which I will bring to your attention, it is this : Every good practitioner as he desires to discharge his obligations to the profession, and regards the good of the community, ought to feel it his duty to do his part in the way of instructing worthy young men who show a fitness for the profession. Beside collegiate instruction we regard private pupilage, as important, if not essential, to prope

instruction in dental surgery. Although great facilities are presented to the student for practice, in our institution, skill in practice can only be acquired in time—the mind may be crammed with a mass of information on a variety of subjects in a short time—although no man will regard such a plan as a desirable one—but there is no royal road to facility of manipulation, time only can give facility in this way. Remember, too, in many of these cases, where young men desire to enter our profession, if they are refused by the better class of practitioners they will fall into the hands of the incompetent, and, eventually, the injury done by such persons will be incalculable. I know, that to a dentist in full practice, it is a thankless task, for he cannot in any way expect remuneration, except in the satisfaction of having contributed toward the advancement of his profession, and the necessary return which this will yield him in the increased confidence of the community. The good accomplished by such an act is inestimable.

I have spoken thus far of your duties in the way of fitting yourselves in the best manner for the conduct of your profession. It now remains to say a word touching your deportment toward your patients and the community. Much could be said upon this branch of my subject, that might be useful to you—much more than I have time to say.

It is not only necessary that you should operate faithfully for those who may come into your hands, and be prepared to operate well; you should also discharge your duties with a just regard to the feelings and characters of your patients. That which you are called upon to do, is, in all cases, more or less disagreeable to the subjects of it—in many cases very painful. Even where you know it is not likely to be painful, the nervous fears of many adult patients, who disregard your assurances to the contrary, will probably, at times, vex and annoy you. But you must be considerate and gentle, especially toward women and children, who will make up a large majority of your patients. When you find that they are suffering pain under your hands, do all in your power, consistently with your duties, to alleviate and render it as slight as possible. You gain nothing by being rough and harsh; and you will certainly lose a great deal. Few things will so much contribute to success in the practice of the dental profession, provided the individual has the requisite knowledge and skill, as a reputation for kind consideration and gentleness of manipulation. Nothing so much interferes with success, as a rough and harsh demeanor. And there is another important consideration in connection with this matter: it is this—the horror of dental operations which some nervous children acquire, after having been treated with cruel harsh-

ness, never passes away ; nothing but force will bring them to submit to operations on their teeth as children, (and when this is the case they can not be perfectly performed,) and after they reach an age when they are no longer under the control of others, the very name of dentist is never heard without a shudder. Rather than submit to the suffering which has left so terrible an impression on their memories, they will endure the inconvenience, and evil consequences to health, of the loss of their teeth.

Such cases I have met with repeatedly ; and I am sure it will not be out of place here, to say to such persons in this audience, who may have children of their own, or the charge of children, to be as careful to guard them against the recital of the horrible sufferings which they must necessarily undergo in the hands of a dentist, as they would guard them from the terrors of ghost-stories.

Fortunately, as you are now well aware, the improvements which have been made in our profession, have greatly lessened, almost abolished, indeed, its painful features. With care and proper consideration on your part, you may save your patients a great deal in this way.

Make it your study, to do all in your power to render your operations as light and easy to be borne as possible ; but do not, in securing this end, go into the opposite extreme, and fail to do your duty. Many patients will show plainly that they do not make an effort to bear the lightest pain, and are themselves so impatient and inconsiderate, that you can not be expected to exhaust your patience upon them. Whilst, therefore, you are gentle and polite, be always firm and decided ; show that you cannot be trifled with—that you are unwilling to bear unreasonable demands in this way upon you. Such deportment will not only enable you to effect your purposes, but will add to the respect of your patients for you, although it may sometimes lay you open to the charge of harshness. For it is impossible that you can escape contact with unreasonable people ; and, with the greatest circumspection, no man can pass through life, in the earnest and conscientious discharge of his duty, without giving offence to some. And believe me, gentlemen, it is the worst policy in the world, to attempt to shape your course so as to give universal satisfaction ; this can never be accomplished : and the trimmer in ordinary life who attempts to gain the favor of all, is sure, like the trimmer in politics, to lose credit with most persons. The surest way to secure success, is to pursue a plain, straightforward, manly, upright course, doing always your duty. Rest assured, that by such a course you will be sure, eventually, to gain the confidence of the worthy, and get rid

of unreasonable people. The fact that the latter class should esteem you lightly, ought not to make you unhappy, for this is unavoidable.

Do not allow yourself to be driven or persuaded to do what you think wrong or inadvisable, no matter how strongly it may be insisted upon. You will find many persons who imagine their own way better than yours, and will insist that your practice be modified in accordance with their directions. Upon this point be inflexible—do not yield a hair's breadth, where you think injury will follow, or your operations fail. It will often be said to you, by such persons, that they will take the responsibility—but this can never be, for you alone will be held responsible, and the failure of what you do will certainly be visited upon you. You will never escape blame in such cases. Do not be afraid to do right, nor to avoid what you know is wrong; in the end it will secure you a higher advantage.

In every case which comes into your hands, make it an undeviating rule to do the best which circumstances will allow. In the beginning of your practice you will, no doubt, have time to spend upon your operations. You must not expect in the outset, as I have intimated, to be able to perform them with the facility and rapidity of more practiced operators. Let the question—in the beginning, and always—be, not how much you can do in a day, but how well you can do it. And when you have advanced further, and find your hands full to overflowing of business, do not fall into the opposite very common and most reprehensible abuse, of hurrying rapidly through your work, in order to make more money. There is scarcely any thing, within my knowledge, which has done more to retard the growth of our profession, than this. How many times have I heard persons, anxious to have done for them all that could be done by us, express doubt as to any permanent security against loss of the teeth, and consequent suffering, grounding their belief upon the fact that they had always been in the hands of dentists of the best standing in the communities where they resided. This is an impression which can only be effaced by performing thoroughly your operations; thus showing that the failure of those which they had already had performed, was not owing to the inefficiency of dental operations, but was to be attributed to the dishonesty—I cannot use a milder term—of the practitioner into whose hands they had unfortunately fallen, no matter what might be his reputation and standing.

I have been bringing to your attention, at greater length, I very much fear, than I am perfectly justified in doing, some of the ways in which you may best expect to secure success in your calling. I have

been advising you to pursue a course of upright dealing in your profession, because it is the best policy to do so. But, let me say to you that the course I have laid out is a difficult one, unless your actions are based upon high and honorable principles. That "honesty is the best policy," is a truism; but let me assure you, gentlemen, it is one of the hardest things in life to be honest from mere motives of policy. Consider well this matter; remember that you are not living in this world for yourselves alone, but as you regard your own happiness as desirable, so must you consider that of others. No man of true principle could practice his calling, whatever it might be, unfaithfully, if it brought pain and unhappiness upon others. In your own profession, gentlemen, if you consider the good of those who come into your hands, you will be exceedingly unwilling to let them go, unless you have done the best for them in your power—whether you receive a full money-equivalent or not.

But, I must close, lest I weary you, or further trespass upon this patient audience, in order to render you a service.

I have said that you had every reason to expect rapid success in the profession you have chosen. I know that success will come to every earnest and honest man, who pursues it with industry. But you must not expect that your course lies over a pathway of flowers. Your profession—an exceedingly laborious one—involves the comfort and health of the community; and it is necessary that, in so responsible a position, you should have its confidence. This is not a tree of very rapid growth. Confidence is not to be acquired, as some imagine, by presenting a bold and impudent front to the public; this practice has grown so disreputable, that the community, the more sensible portion, at least, are rather disposed to shun than to seek those in our profession who endeavor to attract their attention in this obtrusive way. It is only by actually showing, in the lapse of time, the quality of what you do, and that your promises are reliable. You must wait—patiently, earnestly, steadily doing right, to the best of your ability—and success will come. But, in the mean time, if you are dependant for a support upon the proceeds of your own efforts, pressing want may disturb, embarrass and depress you—but do not be disheartened. Be satisfied that you will in after life feel that, under Providence, this trouble has been good for you. I know well, gentlemen, that it is hard at all times to bear up under the pressure of pecuniary difficulties. They are hard and wearing beyond description; those who have not passed through them can not understand them. But there is a bright sky above these clouds; wait patiently, laboring earnestly and faithfully meanwhile

and they will pass away as certainly as they obscure the sun. Of this be sure, too, that if you pursue a straightforward, gentlemanly, honorable course, you will find friends to aid you, in various ways, where you least expect them. But even if these do not come, always remember this, gentlemen—it is a great truth, full of consoling power—there is a Providence which regards our eternal good more than our mere temporary comfort, ordering all our circumstances so as best to secure this end. And rest well assured, that if you perform your duties in your profession always under a strong sense of what is right, it will lead you to a success higher and more desirable than can be reached in any other way. It will bring you peace of mind in all your relations, and when your career, in your profession, and in life, draws to a close, no accusing ghosts will stand behind you; and you will look, without dismay, toward the more desirable future then opening before you. You will then have completed another period of probation, and it will be well if, at that commencement, you are prepared, as a just life will best prepare you, to enter upon a career that will never close.

In the name of the Faculty, gentlemen, I say to you, farewell! And most earnestly do I bid you, God speed!

IS THERE A DEGENERATION IN THE TEETH? IF SO, TO WHAT IS IT ATTRIBUTABLE?

BY WM. A. PEASE.

[Continued from p. 192.]

Secondly—There is a difference in the constitution of the teeth—the fourth generation possesses less density and inorganic matter than their early sires.

This proposition, we are unprepared to establish by analysis—never having made one; nor do we recollect of ever having seen one. But we predicate it upon a great variety of operations, in which we have always observed that healthy teeth offer much more resistance to a cutting instrument than the constitutionally unhealthy. While such cut with nearly the facility of soft wood, the healthy are dense, and can with difficulty be cut. The teeth most liable to caries are the soft and porous ones; the dense are little liable to decay, and the course of disease in them is slow and tedious, often requiring years to destroy that in the more delicately organized is accomplished in as many months. In dense healthy teeth disease does not burrow rapidly, the decayed or dead part is exfoliated, or removed by the juices of the mouth, the cavity is not deceptive, there is but a thin layer of dead bone

covering the healthy ; whereas, in the soft teeth, when the cavity appears small, caries has often burrowed to the centre of the tooth, and the cavity is full of a pulpy, fibrous mass of disorganized bone. These spongy, porous teeth are now found in the mouths of nearly all persons under 20 years of age ; and they constitute the prolific field of dental labor. In an article we read before the Mississippi Valley Association of Dental Surgeons, in the Session of '54, we presented a tabular view of some 1,300 teeth we had extracted, where the name of the tooth, the point where disease commenced, and the age of the person was recorded. Of these, 32 per cent. was extracted between 20 and 25, and 31 per cent. between 25 and 30 years of age ; amounting to 63 per cent. between the age of 20 and 30 years. Now, most of these teeth commenced decaying at, or before 20 years of age, and became either broken off or so troublesome as to require removal before 30, after which the decennial extraction of them was very small ; as, the unhealthy teeth had been removed, leaving none but the healthy in the mouth. This explains why the theory has obtained such general credence, that the teeth become dense from the gradual deposition of earthy phosphates, and at 30 years have acquired such a density as to resist all ordinary exciting causes of disease. The truth is, they must have been originally healthy to have lasted till 30, and, as they really are somewhat denser then, they are in a better condition to repel disease. Occasionally we find a person of this age, the remnant of whose teeth possess the porous and soft character we are describing, which could not have been much softer in early life. In further corroboration of this view we have only to look at the difference between the teeth in the sexes. The boy's teeth, as a class, are larger and of denser structure than the girl's from the beginning. And we accordingly find that though they are proverbially less attentive to them, and are more liable to accidents, they are less liable to caries, and they more seldom wear artificial teeth. Furthermore, we find in boys that condition of the teeth we denominate endurance, and, other things being equal, we expect to see them wear their own teeth long after their sisters are the happy possessors of gems of art. Yet in boys we do not see those indications of health and of strength that will enable their teeth to last fifty or sixty, much less an hundred years. They too, begin to suffer from this molles ossium, and before they become men begin to wear what has been felicitously denominated by a clever writer, "an advertisement of the dentist." We greatly fear the lads of to-day, should they live an hundred years, with all the aid dentistry can afford, will fail to present to the dentists in th

middle of the nineteenth century a specimen of the teeth of 1855. Cases are daily seen where children between eight and twenty years of age have more decayed teeth than their parents between the ages of thirty and fifty. A case in point is now before us: Mr. W—— and his daughter, aged nine. Her permanent bicuspid are now just through the gum, and they are moderately healthy; but her first molars are beyond the reach of art, though the cavity in them, on a superficial examination, would be considered small, yet the whole substance of the dentine has been eaten away and the thin enamel is unsupported; her incisors will soon follow without the greatest care is bestowed upon them. Her father has as perfectly formed and healthy teeth as we wish to see, peculiarly dense in structure, large and regular; but her mother wears two pivot teeth and has lost several molars and bicuspid. Her teeth were free from caries till a much greater age than her daughters. We have yet to see a case where a child, whose parents lost their teeth by caries, has strong and healthy teeth, free from caries till the age of thirty years.

On the *third* proposition we shall only remark: There is a difference in the size of the molar and bicuspid teeth now and then. With few exceptions we have always found the large teeth the most healthy; characterized by the most dense bone, the thickest and most perfect enamel, and they are generally accompanied by a large full arch of incisors. These large teeth and full dentures not only were possessed by the early inhabitants of this country, but they are also found in the mouths of the great majority of foreigners, who now come to our shores. Within the last few years we have had a favorable opportunity to investigate this point in the mouths of thousands of German and Irish laborers on the public works in the neighborhood of this city. We have found that their denture is far superior to American in the size, density and regularity of their teeth. Their teeth are not only large, but they are not crowded. Few of them have lost teeth except from accident; and their concurrent testimony is, that their teeth were healthy in the old country, but they begin to decay in this. Teeth of the same class they possess, and such as we have usually found in the mouths of the aged, are seldom found in the young either here or in New England.

Fourthly—There is a difference in the period and manner of carial attack; its type and the rapidity of its course.

Caries did not attack the teeth of persons now between forty and fifty years of age, as early as it does children's now between six and eighteen. The delicate young fairy of voluptuous city parents now

cuts her first permanent molars at six, and has them extracted, already stumps, at eight and ten years of age; and her other teeth, as they successively appear, often as rapidly follow. Very few persons now attain twenty years of age without losing more or less of their natural teeth, unless they have had them protected by plugs. And many teeth are constitutionally so frail and unhealthy that plugging will only defer for a short period the application of the forceps; and, at the age their parents' teeth began to decay, the inherent weakness of the teeth has rendered the plugs of no avail. Decay generally commences in a child's tooth in the crown of the molars, and on the approximal surface of the incisors, and often before it is noticeable; when the point of an instrument will scarcely penetrate through the fissure in the enamel, it has insidiously progressed and eaten out the dentine, and left little remaining but the enamel, after the decayed portion is removed. The decayed portion often consists of a redish brown, thready consistence; compressible, soft and easily torn, and has much the appearance of bone that has been deprived of its inorganic material by chemical action. Absence of phosphates in a normal quantity, is undoubtedly the cause of the decay, as in the enamel where the inorganic matter constitutes about ninety-eight per cent., this appearance is never witnessed. The enamel seldom softens or decays, and it is not reduced to the consistence above described, and when unsupported by dentine it crumbles away by mechanical disintegration.

Finally, we think these soft teeth, whether in children or adults, are more easily luxated. The inference we draw from it is, that the osseous system in part partakes with the teeth in a diminution of the quantity of the earthy phosphates it receives from the ingesta, and therefore is more flexible.

If we have been an impartial and accurate observer and the structural difference we have indicated really exists in the teeth, it becomes a question of the first importance to determine the real or proximate cause, and to what extent it is remediable. To discuss this would lengthen this paper too much. We can only indicate what may have produced the change. The inhabitants of this country for the first one hundred and fifty years lived under nearly the same influence as to exercise, in the open air and diet, as they had been accustomed to before emigration; and as their brethren in Europe still do. They were healthy from vigorous exercise and a coarse but wholesome diet.

The coarse cereals were then used and the perfection of milling has not then deprived them of half of their nutriment. Their unpampered children were accustomed to well ventilated rooms and abundant

exercise, and they never took cold from "a belly full of fresh air," which was half of their subsistence. They were as tough as the papooses of their tree-rocked Indian neighbors; like them they were healthy and had teeth that could tear bear-meat or cut a hard crust of corn bread. Abstinence from highly spiced food and condiments, together with wholesome out-door exercise seem to constitute the chief difference between them and the young of to-day. The increasing luxury of society, and a growing effeminacy prevent any recuperation from any acquired hereditary taint, which increases by a more stimulating, but a less substantial diet. If climate had any thing to do with the teeth, and in three hundred years it has produced the disastrous degeneration we describe, it surely would long since have edentated the Indians; but they, on the contrary, possess very perfect teeth, which show no signs of decay, unless injured by the habits of civilization. All the Indians we have been able to examine possess a full and regular denture; and all accounts concur in giving them teeth that possess in an eminent degree the conditions we have denominated endurance, viz: health, size, density of structure, and regularity. If the climate and products of the soil from the Hudson to the Mississippi are capable of producing a race of Antiochthones, possessed of the most perfectly developed physical frames, with constitutions and teeth little liable to disease, they surely are not deficient in those ingredients necessary to produce the same results in the descendants of the Angels and Saxons; and any inferiority in them must be attributed to inherent weakness or acquired vices.

For the Dental News Letter.

ABSORPTION OF DENTINE.

Case from my Note Book.

BY PROF. WHITE.

A gentleman about thirty-five years of age, in good health, applied to us, complaining of pain on taking cold substances into the mouth, left side, in the region of the superior molars, and tenderness on pressure with the finger opposite the first and second molars, palatine surface. Near the margin of the gum we found some little tartar deposited there, and between the teeth, which we thought sufficient to explain the cause of complaint. We removed it, and the parts seemed to be more comfortable for a few days; but the patient returned and still complained of the same suffering, and was now able to locate it on the interior and palatine surface of the first molar. We could not see any unnatural appearance of the gum, but on attempting to pass our probe

under its margin, to our surprise we found it to enter a cavity in the tooth, and which was immediately followed by bleeding. We found the cavity to be of some depth; we consequently forced a pledget of cotton into it as freely as was bearable, and requested the patient to call next day. We found, on a second examination, that there was considerable space there, and occupied by a fungoid substance. We repeated the introduction of dry cotton for three or four times, which expanding by becoming wet, gave us an opportunity to determine the nature of the case. We found that there was a large cavity, and that it had been filled up by a spongy growth of the gum, and that the dental pulp was exposed, we applied the arsenical paste to destroy its vitality, which acted also to some extent upon the gum; we removed the pulp, and a portion of the gum, which fairly exposed the cavity; it was perfectly white and clean, not showing the slightest sign of decay. There was no enlargement of the dental cavity at all, so we regarded it as a case of absorption of the dentine of the neck of the tooth, and a considerable portion of the palatine root and crown, by the gum alone, or periosteal membrane; the enamel was untouched and joined with the gum, but not attached, which prevented us from discovering the condition of the case in the first instance, but there was considerable excavation of the dentine towards the palatine cusp of the crown of the tooth. We have plugged the tooth and it does well.

For the Dental News Letter.

TREATMENT OF THE NERVE OF A TOOTH, ETC.

MESSRS. EDITORS OF THE NEWS LETTER:—I herewith send you a sketch of a case of treatment of the nerve of a tooth and almost complete formation of a new crown, which has been the source of much gratification to me, and should you think it worthy of a place upon your pages, I am happy to furnish you with it. At some future time, should this meet your approbation, I may send you my notes upon a couple of cases which I have met with in my practice, and which will apply directly to a subject somewhat undecided in the profession.

Very truly yours,

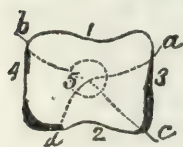
A. B. WILLIAMS.

The patient upon whom I operated was a lady who had teeth of an excellent quality and took the best care of them, but had, through circumstances over which she had no control, most unfortunately lost all the right superior and left inferior molars, with the exception of the left inferior 2d molar, of which there remained barely any thing

beside the roots. Indeed, it was so far gone, that for some time I hesitated in my decision either for or against its extraction.

The appearance of this tooth was a blackened mass of decayed and partially diseased bone, with three small points of sound tooth extending above the gum. Of these, one was on the anterior proximal surface, one on the posterior part of the lingual surface, and one on the posterior proximal surface. These pieces of the crown were all very small, and the spaces between them extended *below* the gum. In the first place I determined to remove as much of the softened bone as I could without giving pain and take the remainder away when the sensibility was, in a measure, removed. I had concluded, though, that in the event of there being even *sound healthy bone* covering the pulp, I would still go on with the operation for extirpation of the nerve, as much as if the whole of it had been diseased. I did so for the reasons that this bone would be so thin as to be but little or no protection to the pulp, would materially interfere with the permanency of the filling, and, on account of the direct pressure in mastication, would always be giving more or less pain, and gradually exciting an inflammation of the pulp which would ultimately endanger if not absolutely involve the final loss of the tooth. In addition to this, the tooth was needed for immediate and constant use, if possible to save it, as it was the only remaining antagonizing masticator on either side. And, too, the age of the patient was such that I could not expect as speedy formation of bone between the filling and the nerve as I would had she been of but 16 or 18 years, or had there been other teeth to bear some portion of the duties and protect it from too severe pressure. All these reasons carefully considered, induced me to arrive at the conclusion to destroy and remove the nerve *at all events*. As I went on excavating I found the bone *thoroughly* diseased and softened, and persisted in its removal until I had left nothing covering the pulp but a thin lamina of this bone, through which I thought the arsenic would readily act. The cavity being prepared, I began the application of the preparation, which is in general use, viz:—Arsenic, sulphate of morphia and kreosote, which I covered with a pledget of cotton dipped in a solution of gum sandarach in alcohol. After allowing the preparation to remain in the cavity about six hours, the pain was so great that I was obliged to remove it, which was followed by almost instantaneous relief. In nearly all the operations that I have performed for destruction and removal of the nerve, I have found that when the pain was great, the mere removal of the arsenic and filling the cavity again with the cotton and varnish almost uniformly relieved the pain directly. In the course of

the fifth day the pain was very great and of a character which indicated a high grade of inflammation of the pulp. I removed the remaining portion of bone covering it, which gave exit to a small quantity of purulent matter which was followed by relief of the pain. There is one thing very remarkable in this case: it is, that notwithstanding I was enabled to apply more arsenic, than in any instance before or since, I never met with one which required so much time to destroy vitality, for it was not until the *twenty-first day* from the first application that the pulp was in a proper condition to be removed; and when it was taken out I found I had not delayed too long, as I sometimes feared I was doing. Five days intervened between the removal of the nerve and replacing it with gold, which was done at one sitting, and at another the crown was completed. I will describe the manner in which the crown filling was inserted, and accompany it with the following rough sketch in outline:—



I have mentioned that the decay extended *below* the level of the surface of the gum, except at three places. In order to expose the edges of the cavity I cut away the gum and allowed it to heal before commencing the filling.

My first step was to begin packing the gold at the *anterior part of the buccal edge* (angle *a*) and carry it over to the *posterior part*, (angle *b*,) at the same time extending it inward to the pulp cavity which had been filled previously: This process was continued until I had built the gold above the level of the gum on that side; I then inserted the gold upon the *lingual side* (from *c* to *d*) in the same manner as *on the buccal* (from *a* to *b*.) These parts of the operation being completed, I went on packing the gold uniformly throughout the cavity until I had inserted as much as I wished. I found, however, I had a superabundance of filling, and the jaws would not articulate on account of my having made the gold assume, as nearly as possible, the shape and size of nature, and the upper molar, which antagonized with the filling, striking it before the other teeth met. This was soon remedied, and I found that about one-half of the filling had to be cut down on the buccal side nearly to a level with the gum. The lingual surface of the filling is pretty much the same, in shape and height, as natural. The operation was completed the 17th of October, 1853.

For some days my patient was unable to overcome the habit of

NOTE.—Description of cut.—1. Buccal surface. 2. Lingual surface. 3. Anterior proximal surface. 4. Posterior proximal surface. 5. Opening into pulp cavity.

avoiding this tooth in mastication, but soon becoming accustomed to it she has used it freely ever since, and has never experienced the slightest inconvenience from it. Not long since she remarked to me, that it was only when thinking of the great benefit it had been to her, and by particularly directing her attention to it, that she would become conscious that anything had ever been wrong with it.

I am free to acknowledge that the success which attended my efforts surprised me somewhat, in addition to the gratification it afforded me, for, while treating it, I was several times on the point of giving it up as utterly impracticable; and even after having destroyed the nerve and filled the roots, I was considerably puzzled as to the manner of putting in the filling in order to make it permanent. I have examined this tooth several times since and find the filling as firm and solid as ever; and from the length of time that it has been in use the case may be considered perfect in its success.

For the Dental News Letter.

DENTAL PATENTS.

BY T. D. THOMPSON.

MESSRS. EDITORS:—In the April number of the “Dental News Letter,” we noticed the announcement of a new dental patent. There seems to be quite a desire among some of the members of the dental profession to immortalize themselves through dental patents. Unfortunately, however, many appear to blunder on to some old exploded experiment, that some professional brother has tried, and either abandoned as useless, or thought of doubtful value.

The most of these efforts have been made for some trivial *improvement* that may have been used by, or known to some one for years. For the benefit of the profession, we would say that the great and important discovery which has recently been the subject for a new dental patent, (namely, to overcome the springing of plates,) has been used in this city (Providence) some three years, and there are plates now worn by persons residing here, made in the manner described in said patent.

The dentist who constructed the plates referred to, was led to do so from having an invalid patient who could not visit his office. Fearing trouble from the springing of the plates, after some thought, the method of arranging two plates was suggested to him as being likely to obviate the trouble, accordingly he did so construct them; his expectations were answered.

Should there be any doubt in regard to the facts stated, we will (if

possible) procure the first plate so constructed and forward it for your inspection; the time of its being constructed testified to by several disinterested persons.

We suggested to Dr. Thornton at the time, that some person, had they discovered the principle, would have made it the subject for a patent.

Query.—Is this patent valid? Has it not been abrogated by previous use.

Providence, Rhode Island.

For the Dental News Letter.

TREATMENT OF ALVEOLAR ABSCESS.

BY PROF. WHITE.

From my Note Book.

Master G——, 14 years of age, good constitution, applied to us in the summer of 1846, suffering from severe abscess of both the superior front incisor teeth, in which the nerves had been destroyed for some time by a blow, and which had also broken off the median angles sufficiently to almost expose the nerve cavities. The teeth were extremely loose and discharging pus at several points around their necks, between the gums and the teeth; so much were the teeth loosened by the suppuration that it was feared that they would drop from their sockets; we were desired to extract them as it was not believed that they could possibly be saved by any treatment. We lanced the gum at two points, about half an inch above the margin, opposite the ends of the roots and deep enough to meet the pus sacks, into which we inserted tents of cotton in order to effect a drainage of the pus in a new direction, so that the gums might contract and heal, or grow to the necks of the teeth again, if they had not lost their vitality entirely; our expectations were fully realized; in a few days the puss ceased discharging around the necks of the teeth, and escaped entirely through the openings which we had made in the gum. The gums grew firmly to the teeth and the swelling subsided rapidly, and in a few weeks the tents were left out. Those tents of cotton were renewed every other day. They were made by rolling a small portion of loose cotton between the fingers, making one end larger than the other, a kind of bullet-headed roll; the larger end was introduced into the opening a considerable distance, and the smaller or tail end remaining out about a quarter of an inch, so as to afford a hold by which to withdraw them when desired, and to prevent the lips of the wound from closing. In this way a complete drainage of the parts is constantly kept up upon

the principle of the *seton* until all irritation is reduced, and the *piogenic* membrane over the apexes of the roots is entirely absorbed, when upon the withdrawal of the tents the sinuosities *may*, and they generally *do* heal entirely. At this time, when the gums had healed, the pulp cavities were both opened from the fractured surfaces, which showed some signs of decay; the internal walls of the cavities were also considerably decayed; they were thoroughly cleansed, and plugged to the apexes of the fangs with gold. They have not given the slightest pain or sign of abscess up to this time. The gums present a slightly blue appearance, but the teeth are as firm in their sockets as any teeth in the mouth. The teeth seem to have *less* motion than is usual in health, from the fact that there seems to be less vascularity about the parts than is usual in more healthy teeth. There is no thickening of the gums, but rather an impoverished look. This method of treatment presented itself to our mind in the spring of 1839, when we first resorted to it in treating two front teeth roots, for a surgeon in the United States Navy, and which was entirely successful. The abscesses never returned, but the roots were removed within a year past, from having become too much decayed to hold pivot teeth. These cases furnish several important and exceedingly interesting considerations in the treatment of alveolar abscess; and first, that of diverting the discharge of the puss by a new channel to save the life of the tooth. We are treating two cases of the kind at present, and have treated a very great number from time to time. Secondly, maintaining the mouth of the wound or orifice open, so as to favor the constant escape of the pus as rapidly as it is secreted in the sack, and concentrating it to one point, and preventing burrowing through surrounding parts, and of obtaining the advantage of capillary attraction through and around the tent of cotton, in the same way that the drainage of abscesses is accomplished by the surgeon in other parts of the body; such as in the treatment of scrofulous abscesses of the scalp. Again, how will the re-union of the gums to the necks of the teeth be explained by those who contend that the teeth become foreign bodies when their pulps are destroyed? In these cases the pulps were entirely dead and the external membranes of the roots for a time nearly dissected away by the escape of pus. Some of our eminent surgeons and dentists are in the habit of lancing abscesses of the gums every day for a long time, from the fact that the wound heals as soon as the tension of the parts is relieved by the first discharge of pus; of course a tent of cotton should always be introduced into the wound in lancing any abscess.

For the Dental News Letter.

THE NEW METHOD OF USING GOLD FOIL.

MESSRS. EDITORS:—My attention was called to an article in the April number of your journal, by Prof. Arthur, on a “*new method of preparing gold foil*,” with arguments for and against sponge gold. Having used gold foil for the last fifteen years, and always with success, I have no desire to change it for sponge gold, although many of the profession speak in the highest terms of it. My object in writing, is not to discuss the merits of sponge gold, but to state that the “*new method of using gold foil*,” was used by myself *twelve* years ago, while associated with the late Dr. John A. Cleveland. In a conversation with a brother dentist of this city, Dr. D. S. Chase, I mentioned that I had been in the habit of annealing my foil before using; he stated that he had commenced using it in the same manner, *eight* years ago, and supposed others were using it in the same way. I have never found that it required a different method to use the gold annealed, except the gold should be rolled lighter, and the pluggers roughened a little. Particular care should be observed in passing the gold through the flame, otherwise it becomes too hard. Gold prepared in this way makes most beautiful fillings; they are much harder and receive a higher polish than those filled in the ordinary way. Prof. Arthur certainly deserves the credit of bringing this method before the public, but that it is not new, I think I have conclusively shown.

Yours respectfully,

JNO. W. SPEAR, D. D. S.

Augusta, Ga., April 20, 1855.

We are pleased to see the above endorsement of Prof. Arthur's new method of using gold foil, but must ask of what benefit is such an improvement to the profession at large if kept secret,—if not published through the open columns of some of our dental journals? We hold, therefore, that the man who discovers a new principle or application, and makes it public, is entitled to all the credit, no matter if a thousand had done the same thing before him, and we doubt not our correspondent will agree with us.—ED.

Poisoned by Chloride of Zinc.—A case is mentioned in the London Lancet, in which an infant swallowed by mistake a solution of chloride of zinc. Diluted sulphuric acid in milk was prescribed, with a view of converting the salt to a sulphate, and it answered well—the little patient recovered.—*Medical Chronicle and Montreal Journal.*

For the Dental News Letter.

THE ETHER QUESTION.

BY JAMES E. GARRETSON.

(Continued from page 163.)

It is, however, maintained by some, that these fatal results have already arrived; and at the moment in which we write, a coronor's jury—not the best judges, by the way, of a physiological or pathological event—have decided that in one case, at least, death has been the consequence of etherization.

The preceding very impartial and terse consideration of the question we find in a British medical gazette, written after a candid investigation by its editor; an article full of common sense as it is philosophical, and which unfolds the vista, presenting its merits and demerits, plainly suggesting the question—To what are accidents attributable? and which, before proceeding further, may be considered with results that shall provide the foundation stone upon which to rear our structure.

We deem it irrelevant to the present paper, to suggest cases beyond the illustration of classes previously offered; indeed, unnecessary; and shall therefore proceed at once with our addenda of administration, causes and effects; presenting such authority as may be received by the seeker after proficiency in all confidence, practice based upon physiological philosophy.

An agent, refreshing in itself, may, in improper hands, become a source of ill; this truth embraces the whole *Materia Medica*.

The essential points in the exhibition of sulphuric ether seems to be—

1. That the ether should be very pure.

2. That the inhaler containing the vapor be so constructed as to admit a current great enough to fill the respiratory organs without effort.

3. That the vapor be properly diluted—given comparatively weak at first and increased in strength as the glottis air passages and lungs can bear it.

4. That insensibility be produced as quickly as the system will bear—as evinced by obvious signs.

From two to five minutes will be found the average time necessary to produce the effect of perfect sleep, while cases will present themselves where double this time will be required. From an article emanating from a gentleman of much experience in anæsthetic agents, we have the following: “It is quite possible to inspire three, four, nay ten times the quantity of ether capable of producing sleep, without this state being produced, provided the vapor be taken in a too diluted

form, and we believe that this over dilution and its consequent protracted inhalation is a frequent cause of the excitement which so often supervenes in the practice of many persons, while it so rarely shows itself in that of others. In these cases the patient may be made drunk, drunk in the first degree, but not dead drunk, the condition required for chirurgical purposes."

It will be remarked (allow us to notice in passing) that one of the greatest objections of the opponents of ether lies at this door, this supervening state of excitement, instead of the desiderated stupor. Again the question applies—Is the fault with the ether or with the operator?

The effects of alcoholic liquids are too well known to require minute description. We have, first, the state of exhilaration, and which gradually changes to complete stupefaction, or narcotism; the last state, the result probably of a narcotized state of the brain—just so acts sulphuric ether—yet passing through its various stages more quickly, the result of its being poured in a continuous and undiluted stream upon the heart and brain. The ether is no sooner absorbed than the blood charged with it passes on to the left side of the heart, and immediately thereafter is circulated through the coronary vessels, the corotid and vertebral arteries, and thus pervades the tissue of both sides of the heart, as well as of every part of the brain. A writer in a lately published disquisition, presents an example in this wise: "Suppose, to take an extreme illustration, that the blood were as capable of absorbing as much ether as water can combine with, or one-tenth its own weight; if, then, we suppose the blood in the lungs were impregnated to this extent, it would be applied in that state to the heart and brain; whereas, if the blood in the stomacic veins were impregnated to the same extent with ether, before reaching the liver it would have mingled with more than its own mass of pure blood from the splenic and mesenteric veins; the tenth would thus become a twentieth, and, on the blood leaving the liver and joining the larger current of the inferior cava, the twentieth would become a fiftieth or sixtieth, a further dilution would take place at the confluence with the superior cava, so that the blood on reaching the heart and brain, instead of containing one-tenth part of absorbed ether, could not contain so much as one-hundredth; when, therefore, the same quantity of ether (or any absorbable substance) is taken up from the lungs and from the stomach, it must in the former case be applied to the tissue of the heart and brain in a state of concentration at least ten times

greater than in the latter, and will therefore act on these organs with more suddenness and energy."

The evanescence of the effect of ether when compared with alcohol, will be explained by a momentary reconsideration of the different manners of absorption; during the inhalation of ether, as we have just seen, the charged blood is applied to the heart and brain; while the blood circulating in the lower parts of the body contain a much smaller proportion of it. Now, on stopping the inhalation, the blood circulates in the heart and brain, speedily passes off by the veins, and is succeeded by the comparatively pure blood coming from the lower regions of the body; and so the narcotic symptoms disappear.

"It is far otherwise, when alcohol is absorbed from the stomach, for the whole mass of blood must be impregnated with it, before a highly charged blood can be applied to the heart and brain; and then the effect continues for many hours, till the alcohol has been thrown out of the system by the skin and lungs. With respect to ether, it must not be supposed that on the subsidence of the narcotism, it disappears from the body; for it is merely weakened in its effects, by being diffused over the whole mass of blood—this is obvious from the smell of the breath for many hours, and from its frequently causing copious perspirations."

Does not the question here suggest itself—If the effects of ether and the common alcoholic beverages are so nearly alike, why the great dread of one and entire fearlessness with the other? The answer would seem to be somewhat of this kind—Men, when etherized, are as dead drunk—our eyes are not yet well used to seeing men more than gloriously drunk—in that state we are amused at them; when in the perfected state of which we speak, we have been used to putting them to bed, and seeing wives cry over them; associations have great weight.

The immediate and obvious effects of etherization on the individual hardly requires notice, as they must be familiar to all our readers, if not from personal trial, at least from observation on others. All the usual phenomena of the deepest sleep supervenes, gliding often into the profoundness of sopor and verging occasionally upon, if not actually lapsing into coma. The voluntary muscles become suddenly relaxed, the jaw falls, the arms hang down, the eyes roll upward under the lid, the respiration becomes slow and labored, and the face becomes either very pale or morbidly flushed; the aspect of things is truly such as can hardly be contemplated for the first time, without alarm; the individual seems, to the common eye, to be sinking into the sleep of death.

It is impossible, says another author, to observe a single case of etherization without being struck with its resemblance to asphyxia—and experiments exhibit a real relation between the two. But in ordinary asphyxia the nervous system loses its power under the influence of black blood, of blood deprived of oxygen, but in etherization it does so under the direction of this singular agent. This is really all the difference; for in both there is the same loss of sensation and voluntary motion, and the same at least temporary persistence of the respiratory movements; in one word, there is the same survival of the medulla oblongata over the spinalis. Etherization exhibits to us the entire mechanism of asphyxia—we mean the successive death of the various nervous centres. It isolates, just as mechanical experiments do, the intellectual powers, the co-ordination of the movements, sensibility, motility, life. The isolation of life—this point, this vital knot of the nervous system—forms the most striking point of the new experiments. In an etherized animal one point alone survives, and while it does so, all other points retain at least a latent life, and may resume their active life; this point once dying, all dies.

Throwing out of immediate consideration, the idiosyncracies, let us for a moment consider the question of its general safe exhibition, as before suggested; the safest agents may be made a source of ill. Just as the intruder on the physical laws of his organism must suffer the consequence of his ignorance or temerity, so may an agent be made an injury by its abuse. As the imbibition of alcoholic liquids may be carried to a point beyond which the life principle reacts not just so, and as the warmest supporters of ether would have impressed, may ether be made an instrument of irreparable injury, blasting and destroying where it was designed to refresh and save.

To describe and lay down certain reliable rules applicable in all cases of the process in etherizing, were an impossibility. The presentment of conditions in various individuals so materially differ, that any but rules the result of a general knowledge of the agent, a general knowledge of physiological and pathological laws, were charlatanism to act upon. One person, as Dr. Snow remarks, shall become impassible as the subject on the dissecting room table; another talks incoherently, or mirthfully, replies to questions, or obeys directions; others utter exclamations of pain, which they afterwards retain no reminiscence of having felt; and others again declare they have suffered pain but felt themselves powerless for its expression. Finally, in not a few ungovernable, violent or convulsive action takes place, quite adverse to the performance of any delicate operation. With some, an utter ob

lition is induced; while others, while undergoing all the apparent torture of a prolonged dissection, are revelling in the realms of memory and in the fields of imagination. M. Jobart, and other observers, have attempted to lay down three distinct stages in its effects, according to the prolongation of the etherization: 1. That of incoherence, agitation, or delirium, as the case may be. 2. Acceleration of the pulse, with loss of sensibility, and loss of power; and 3. Exhaustion and coldness of the surface. As we remarked, the matter cannot be thus methodically laid down, but it is quite certain, that any of these conditions may be induced in different individuals by very various doses of ether, while others again are susceptible of only the first degree, to appearance, and yet enjoy an immunity from suffering, during operations. Even the quickened condition of the pulse and respiration, and that almost universally employed criteria, the stationary condition of the pupil, may all deceive in the supposed impression produced.

Various of the French Academicians, some few years back, instituted a series of experiments upon animals, for the purpose of determining the mode and order in which the various portions of the cerebro spinal system were influenced during inhalation. The following are some of the conclusions arrived at by the veteran vivisector Baron Flourens: "The action of ether upon the nervous centres follows in a given course. It acts, first, upon the cerebral lobes, disturbing the intellect. It acts, secondly, upon the cerebellum, deranging the equilibrium of the movements of the animal. Thirdly, it acts upon the medulla spinalis, in which it extinguishes successively the sensory and motive principles; and, lastly, it acts upon the medulla oblongata, where arrived life becomes extinct."

As by a familiarity with the views of numbers of our best surgeons and physiologists, it will be seen that great diversity of opinion exists, both in regard to the more minute relations of the *modus operandi* of ether, and as to the question of its general, or even special safeness; much attention should be given the subject by our profession; confidence should be enjoyed or rejected only after a careful weighing of the evidence which has been adduced both pro and con, or which may be gathered around by that investigation, which the momentous importance of the subject deserves.

We have, as we write, testimony upon testimony lying upon the table before us to its disparagement; the citation of case after case of results serious and fatal, and while, with the editor of the British medical gazette, bad ether, bad instruments, bad manipulators, may be suggested to the mind in extenuation of the effects, and bad conse-

quences received as to be expected, rather than as matters of surprise—yet should modesty, that it may at least be heard, suggest the probability of other manipulators being as learned and wise as we are.

A fellow practitioner, sitting in our office as we write, and who has enjoyed an experience in the exhibition of sulphuric ether, co-extensive with that of any general or dental surgeon in the country, whose services have been sought both in the hospitals of New Orleans and in the operative rooms of the north, who (as he thinks) has familiarized himself with all its ramifications and peculiarities, thus speaks: I see no cause of fear, neither do I acknowledge any idiosyncrasy, save such as any common alcoholic beverage would not unpleasantly effect, for, as they are analagous in their action, so also are they analagous in their effect. If there is danger to any particular one in that excess of drinking which produces dead drunkenness, then is there danger in etherizing that individual to the point which acts upon the medulla spinalis; if, on the contrary, he can stand without ill consequences the first, he will undoubtedly stand the second. Ask any patient who may present himself for your services, whether or not he has ever been deeply under the influence of alcoholic liquids; if he answers affirmatively, dismiss your fears; if negatively, or speaks of ill consequences succeeding, be careful, watching closely each presentment. As the ill effects which alcoholic liquids may produce becomes evident as inebriation is increased, so also are there obvious and unmistakable presentments where the continuance of etherization is unfavorable; so that, in my judgment, accidents are the result of either an improper exhibition of the agent, or of its being impure and improperly prepared."

We will close the present paper with an opinion from Dr. Robinson, a dentist of enviable eminence in London:

"It is of the greatest importance," says the Dr., "that the ether employed for the purpose of inhalation should be pure, and of the least specific gravity, and of the most volatile kind. To secure this, the operator must either prepare it himself, or procure it of some chemist in whom he can place implicit confidence, and who must prepare it for this especial purpose; for," continues he, "I feel convinced that many of the failures that have occurred in its administration, in some measure, may be attributed to the imperfect preparation of the fluid, and the apparatus employed. I have, myself, obtained ether of various specific qualities from different chemists, and on one occasion, requiring an extra quantity for a series of experiments, and the gentleman supplying me being out of that quality he had generally supplied, sent some of a different quality which he had in his establishment, and

which was administered in two cases ; I found, however, I could only produce partial unconsciousness, not insensibility to pain, (the intervening state to which we previously directed attention,) and therefore deferred the operations, which were on the teeth. I procured some of the first quality ether, and afterwards employed it in the same case with success.

[TO BE CONTINUED.]

MANAGEMENT OF LIGHT IN THE PERFORMANCE OF DENTAL OPERATIONS.

BY J. H. M'QUILLEN, M. D., D. D. S.

Prudence! thou vainly in our youth art sought,
And, with age purchas'd, art too dearly bought.—DRYDEN.

That a thorough knowledge of optics, which has for its object the investigation of light and colors, and their relations to the organ of vision, is of decided importance to the dentist, is a point which certainly cannot be questioned. It being a well ascertained fact, that all occupations requiring long continued use of the eyes upon small objects, more or less impair their integrity ; this result depending to a great extent upon the natural strength or weakness of the organ.*

* The causes which contribute more directly to the occurrence of amaurosis, are analogous in their nature and operations to those which produce disease in other textures of the eye. In a great number of instances the immediate or exciting cause is excessive exertion of the organ, *particularly its employment on minute or shining objects*. Hence, it is frequent in those who follow the various occupations requiring close attention and constant exertion of the organ, as in engravers, painters, especially in miniature, jewellers, watch-makers, and the various workers in metals. When we consider, that in these, and many other similar cases, the eye is incessantly exerted for several hours daily, and reflected on the delicate texture of the retina, we shall only be surprised that it should retain its powers so long unimpaired.—*Lawrence, page 496.*

Affection of the retina from excessive employment, commonly called weakness of sight.—The retina may lose the power of continued exertion from habitual or excessive use of the eyes, as in microscopic or telescopic observations, or in any other way in which they are closely and intently occupied. The power of vision is not impaired: the minutest objects are seen clearly as in the natural state of the eye. But when it has been exerted for some time, the organ becomes tired ; objects appear dull, confused or distorted, and can no longer be recognised ; a sense of weariness comes on in the part, occasionally with redness and lachrymal suffusion. The eye-lid drops, and a painful pressure is felt in the brow, the uneasiness goes off by rest, the powers of the retina are restored, and the eye may be employed again ; but, if exertion be imprudently pursued, the

The cause referred to by Mr. Lawrence in the notes appended, exerts the same insidious and baneful influence upon the dental practitioner. This is a fact that must impress the mind of the least reflecting.

An intimate friend and fellow practitioner, has frequently compared the dentist to Peter Pindar's Magpie, who

“With head awry and curious eye
Peeps knowingly into a marrow bone.”

We are accustomed, hour after hour, to concentrate our vision upon cavities in the teeth so situated as to try the powers of the strongest eyes. For instance, a cavity in the posterior surface of a superior second molar communicating with the pulp cavity, the operator intending to thoroughly fill both cavities with gold foil. Such an operation properly performed, is as exacting upon the eye, as any of the duties connected with the occupations cited by Mr. L.; added to this, the position in which it is necessary to hold the head during the greater part of the operation, favors a determination of blood to the head, which is one of the most active predisposing causes in the development of the various affections of the eye.

A perfect knowledge of the anatomy and physiology of the eye, and of the laws governing light, and of the morbid changes induced by injudicious use of the organ, will enable us to guard against the injurious results alluded to. It is not, however, the object of this communication to enter into a detailed description of these sciences. On the contrary, it is merely my intention to offer a few reflections on the management of light in the performance of our operations; dwelling only upon such of the phenomena and functions of the organ as will elucidate the subject under consideration. I do not wish to be considered as endeavoring to lay down immutable laws for others; but rather as advancing the following views in a spirit of inquiry, desiring that they may draw forth responsive communications from my fellow practitioners. To such of my readers as may desire a more intimate acquaintance with the subject, I would refer to the works of Newton and Brewster, on Optics, the Physiological works of Magendi, Carpenter, Todd and Bowman, and for an accurate description of the various diseases of the organ to “Lawrence on the Eye.”

organ becomes sooner tired. The time in which this occurs varies in different instances, from an hour and a half or two hours, to a few minutes. No pain is experienced in passive vision, or in looking at distant objects out of doors. The patient is often annoyed by the appearance before the eye, in various forms, of imaginary objects called *muscae volitantes*.—Lawrence, page 521.

To the dentist a *clear* and *steady* light is a great desideratum. This can only be obtained with any certainty from the *northern sky*. The artist invariably makes choice of this light for his studio : this is true also of the daguerreotypist ; and of the silk merchant desirous of displaying his goods to advantage. But it is of still greater importance to us when taking into consideration, that while it is reliable from its steadiness, it is also on account of its being a *reflected* light, less likely to prove injurious to the eye. A certain portion of the solar rays are *absorbed* by the northern sky, whilst those that are *reflected* constitute a clear and steady light, which, if properly managed, will not prove exacting upon the organ.*

That the southern light is too powerful will be admitted by every operator of experience. I have found that even those who have contended that it is the best light to work in, invariably use ground glass windows to modify its power at certain periods of the day. Added to this, its vacillating character must act injuriously—every cloud that passes before the sun producing a marked change in the light. At one moment the operator may have a light of the greatest strength, and in a second, by the passage of a dark cloud, the object before him is only seen indistinctly, until the iris by enlarging the pupil accommodates the eye to the change ; perhaps by the time this is effected the light again assumes its intensity, and the iris now, by a responsive action, decreases the size of the pupil, so as to secure perfect vision.

The iris, by enlarging or contracting the pupil, regulates the quantity of light admitted to the retina. An excellent method of observing the movements of the iris, is to place oneself before a window with a hand glass ; and then opening or closing the shutters suddenly, the iris will contract or dilate according as light is introduced or shut out. The action of the iris, however, is not due to the immediate influence of light upon it, but to the impression made by rays that pass through the pupil and fall upon the retina. In certain experiments performed upon animals, Magendie found that after a division of either the optic or fifth pair of nerves, the iris became motionless. When looking at distant objects the pupil is dilated and the observer may gaze

* One of the most curious properties of bodies in their action upon light, and one which we are persuaded will yet perform a most important part in the explanation of optical phenomena, and become a ready instrument in optical research, is their power of *absorbing* light. Even the most transparent bodies in nature, *air* and *water*, when in sufficient thickness, are capable of *absorbing* a great quantity of light.—*Sir David Brewster*, page 121.

for hours without a sense of fatigue ; in examining nearer and minuter objects it contracts, and in proportion to the intensity of light, does it decrease in size. I was forcibly impressed recently by the advantages arising from directing the vision to objects in the distance, after close and excessive use of the organ ; all day long my eye had been confined to the narrow arena of the patients' mouths, but now at its close it was enjoying the beauties of nature,

“ Amid the ancient forests of a land,
Wild, gloomy, and magnificently grand,”

and the sense of relief afforded was of the most marked and pleasant character.

For years it was a subject of controversy whether the movements of the iris were due to muscular contraction or vascular engorgement. At present it is the opinion of the best observers, that its action is due to two kinds of muscular fibres (demonstrated under the microscope) situated in the iris ; one set being orbicular, and when contracting decrease the size of the pupil ; the other set are radiated, and when acting dilate the pupil. But whatever its action is due to, there can be very little question that the stimulus arising from the intense and variable nature of the southern light must injuriously affect (though possibly for years imperceptibly) the strongest eyes.*

As stated before, it is the practice of some operators who make choice of the southern aspect to modify the light by using ground glass. With due deference to the views of these gentlemen, I conceive that perhaps no more injurious course could be adopted, both for the eyes of the operator and patient. When the rays of the sun strike directly upon the window, the light transmitted is as blinding in its influences as that reflected from a snow bank. My office, though lighted from the north, had, prior to my occupancy, a portion of the window glazed with ground glass ; an experience of a few weeks convinced me that it exerted a deleterious influence upon the eye. The glass was soon removed and the ordinary glass substituted, much to the personal comfort of the occupant.

The same objections that have been urged against the southern

* Limited or temporary exposure to strong light may produce amaurosis suddenly, as in a stroke of lightning, *coup de soleil*, or microscopic observations. But it is more frequently seen as the consequence of habitual exposure to less powerful light, as in soldiers and sailors when living in tropical countries, and those who pursue their employment under strong gas light.—*Lawrence, page 497.*

light, hold good against the eastern in the morning, and western in the afternoon. These opinions are not advanced as mere speculative views, but as the result of personal experience. During a professional visit, in the early part of my career, to a town in the interior of the state, I was compelled to operate by the southern, and after my return to the city, having still a few months of my novitiate to complete, rejoined my preceptor, and there operated for a short period by the western; since that, an experience of several years with the eastern, and of three years with the northern, has confirmed the opinion I have always entertained, that the *northern light* is the best adapted to dental operations.

Even with a northern light an operator, by possessing a very large window, may throw more light in the room than he actually requires. My office has a window twice the ordinary size, with four leaves to the shutter, so that as much or as little light can be introduced as may be desired; when there is a clear blue sky, one-half the shutter is opened, admitting a light powerful enough to observe the most minute cavity in a tooth, and at the same time not of a sufficient intensity to exert an injurious influence upon the organ; if the northern sky is filled with white clouds as sometimes is the case, and under such circumstances reflecting an intense white light, but one leaf of the shutter is thrown open; towards the close of a bright day when the light becomes weakened, or upon a dark and cloudy day, if necessary, the entire shutter can be thrown back.

A bay window, reaching from the floor to the ceiling, with inside shutters so arranged that the light could be introduced from above or below, to the right or the left, would constitute a window admirably adapted to our purposes. All the light that is required in the performance of dental operations is that which falls directly upon the object which commands our attention, and any superfluity only annoys and impairs the operator's vision; on this account, it is advisable that the wood work in the room should be painted in imitation of oak or walnut, and the paper on the wall be of a subdued color, so as to rather absorb than reflect light.

THE WRONG TOOTH.

Mishaps, that would quell the most powerful mind,

I have braved from my earliest youth;

But, ah! I have now much more cause to complain,

I have been to a Dentist to ease me of pain,

And the fool has pulled out the wrong tooth.

PROCEEDINGS OF THE MISSISSIPPI VALLEY ASSOCIATION,
AND THE AMERICAN SOCIETY OF DENTAL SURGEONS.

MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

Special meeting held May 7th, to receive the members of the American Society, pursuant to resolution adopted at the annual meeting.

Present—Drs. TAFT, WATT, WEBSTER, GODDARD, HOW, TAYLOR, SMITH, McCULLOM, BROWN, BONSALE and LESLIE.

The President and Vice-President being absent, on motion of Dr. Goddard, Dr. Bonsale was called to the chair.

On motion, Dr. Watt, chairman, presented the following report.

To the Mississippi Valley Association :

Your committee, to whom was referred the Prize Essay, would respectfully report, that though unable to act in concert, to the extent they desired, yet they have endeavored to carry out the wishes of the association, as well as they could ascertain them from the remarks of members at the last meeting

The whole essay has been revised, and verbal corrections have been made in several places. But our attention was principally directed to the chapters objected to and these are very materially modified, and, as now presented, will, we trust, meet the views of the society. The articles on Extraction and Mechanical Dentistry are much abridged, and we invite the special attention of the society to them and to the one on "Filing the Teeth." The work is reduced about twelve manuscript pages.

We would therefore recommend the adoption of the following resolution :

Resolved, That a committee of three be appointed to publish — copies of the essay and have the same ready for distribution at the next annual meeting of the association.

Respectfully submitted.

G. WATT,
J. TAYLOR,
J. TAFT.

Report accepted, and, on motion, laid over until next day.

Dr. Goddard moved, that when we adjourn, we do so to meet at 8½ o'clock to-morrow. Adopted.

The following communication was presented by the president :

To the President of the M. V. A. D. S. :

Sir—I hereby resign my place on the Committee on "Dental Progress."

GEO. WATT.

Dr. Goddard moved to lay on the table until to-morrow. Carried.

On motion, adjourned.

SECOND DAY 8½ O'CLOCK A. M.

On motion, the following resolutions were unanimously adopted.

Resolved, That the members of the Mississippi Valley Association of Dentists, and of the profession generally of the West, cordially extend to the members of the American Society, and our brethren who are now visiting the city of Cincinnati, an invitation to meet us on Wednesday evening, May 9th, at the Walnut Street House, to participate with us in a social entertainment.

Resolved, That a committee of three be appointed to make all necessary arrangements and extend such invitations as they deem proper, and report as soon as such arrangements are completed.

Dr. Goddard moved that the amended portions of Dr. Watt's essay be now read.

Resolved, That 300 copies of the essay be published, in the cheapest form, and be distributed by the committee to those members of the profession for amendments and criticism, as they may deem proper, with a request that they will suggest such amendments to the committee, as they may deem advisable, as soon as they can conveniently—said committee to report at our next meeting.

Resolved, That the committee on the foregoing essay be instructed to carry it out.

Dr. Goddard moved that the resignation of Dr. Watt be laid on the table indefinitely. Adopted.

By order of the society, the name of Dr. E. A. Herman, which was left out, by the action of the society at our last meeting, be restored—Dr. J. Taylor having reported that his initiation fee had been paid him previous to our last meeting.

Moved that, when we adjourn, we do so to meet at 4 o'clock, P. M.

Dr. Goddard moved that, in the absence of the president, Dr. Taylor be appointed to welcome the American Society in the name of this association, and that Dr. Watt be a committee to invite said society to hold their sessions in this hall.

The members of the American Society being introduced, Dr. Taylor welcomed them to the West and pledged a united effort to make their visit a pleasant one. When, on motion, the society adjourned.

AFTERNOON SESSION.

Committee on Entertainment reported. Report accepted. Adjourned.

At 9 o'clock, P. M., the society met at the Walnut Street Hotel, where, with the members of the American Society, together with a number of invited guests—Medical and Dental—to the number of about

fifty; they spent two hours pleasantly around the social board. In answer to toasts, speeches, short but pithy, were made by Drs. Townsend, Taylor, Dunning, Allen, Jobson and Miller of the Dental Profession, and by Professors Wood, Armor and Mendenhall of the Medical.

A very pleasant social evening was also enjoyed on the succeeding night at the hospitable board of our worthy ex-president, Dr. Charles Bonsall.

The members of the M. V. Association, and others who enjoyed the society of their eastern brethren, will recall with pleasure their visit.

A. M. LESLIE, *Secretary*.

THE FIFTEENTH ANNUAL MEETING

Of the American Society of Dental Surgeons, convened according to appointment, in the Hall of the Ohio Dental College, in the city of Cincinnati, Ohio, on Tuesday, May 8th, 1855.

Met at 10 o'clock, A. M., the President in the chair.

Present, Drs. Townsend, Dunning, Wheeler, Miller, Berry, Goddard, Taylor, Allen and Bonsall, together with many other members of the profession; several of them being members of the Mississippi Valley Association of Dental Surgeons, who had met for the purpose of welcoming this society.

In the absence of the Secretary, Dr. Bonsall was chosen Secretary *pro tem*.

On motion, all members of the profession who may be present at any of our sessions, were now invited to participate in our discussions.

The minutes of the last annual meeting were read by the Secretary, and approved, after which the President, Dr. Townsend, delivered the opening address, which was listened to with much attention.

Dr. Townsend reported that the chairman of the Committee on Microscopic Observations, Dr. J. D. White, had a report to make, but had been unavoidably prevented from attending the meeting; and, on motion, the committee was continued to report at the next annual meeting.

On motion of Dr. Taylor, a committee of three was appointed to take into consideration the suggestions made in the President's Address: and Drs. Taylor, Dunning and Goddard were appointed and directed to report at the next session.

The chair appointed Drs. Goddard and Taylor to audit the Treasurer's accounts.

Adjourned to meet at 9 o'clock, A. M., to-morrow.

MORNING SESSION, SECOND DAY.

Met according to adjournment, at 9 o'clock, A. M., with the President in the chair; the minutes of yesterday's meeting were read and approved.

The committee appointed to audit the Treasurer's accounts, reported the following:

Your committee appointed to audit the accounts of the Treasurer, would respectfully report, that they have examined the same with the vouchers, and find them correct, and that there is a balance of \$227 74 in his hands. All of which is respectfully submitted.

WM. H. GODDARD, } Committee.
JAMES TAYLOR, }

The next business in order being the report of the Committee on the President's Address, they offered the following report which was accepted.

To the American Society, &c.

Your committee, to whom was referred the President's Address, would respectfully report:

That they have especially turned their attention to that part of the address which suggests a more liberal, less exclusive, and more national organization; one which shall bring up at our yearly convocations, a fair representation from every portion of our extended country.

The committee feel that the profession occupies now a very different position from that which it did when this society was first organized; that however admirably adapted the organization was then for the work assigned it, yet having accomplished as we believe, that work, and been of vast service to the profession—a broader basis for action is now demanded.

The Society was organized before we had a dental literature, or any effective and well organized system of dental education. In the brief period of its existence, the work of a century has been accomplished, and the impetus which has wrought such progress, demands a new set of machinery, that we may keep pace with the active spirit of the age.

The committee would therefore recommend that a call be issued by the President of this society, in accordance with the sixth article of the Constitution, to take into consideration the general subject of associations, and the dissolution of this society; said meeting to be held in

Philadelphia, on the day previous to the holding of the meeting called by a number of dentists of that city.

JAMES TAYLOR, }
E. J. DUNNING, } Committee.
WM. H. GODDARD, }

The subject was fully discussed by Drs. Miller, Dunning, Taft, Townsend, Taylor, Leslie, Pease, Watt and Goddard, and the resolutions, were unanimously adopted.

On motion of Dr. Goddard, the President was requested to give *this afternoon*, to the members who may be present, a description of his manner of plugging teeth.

Dr. Taylor reported the sudden death of Dr. B. N. Freeman, a member of the profession in attendance on the American Society, now in session in this city. Therefore,

Resolved, That we deplore the loss thus sustained by the profession, and deeply sympathize with his afflicted family in this sad and unexpected bereavement.

Resolved, That, as it was the will of Divine Providence that our friend and brother should die away from his wife and family, deprived of those family comforts so necessary' to soothe the passage to the grave, we feel grateful that it was in our power to administer to his wants in the hour of his death. That he died not among strangers, but was surrounded by friends.

Resolved, That the above be entered on our minutes, and that the Secretary transmit a copy of the same to the family of the deceased.

JAMES TAYLOR,
WM. H. GODDARD,
E. D. WHEELER.

On motion, adjourned to meet at 3½ o'clock, P. M.

AFTERNOON SESSION.

Met according to adjournment at 3½ o'clock P. M., when the minutes of the morning session were read and approved.

The President spent some time, apparently very much to the satisfaction of members, in detailing his method of plugging various kinds of cavities in teeth, and under many different circumstances, after which there was a general discussion on the subject of plugging, participated in by Drs. Miller, Bonsall, Taylor, Wheeler and others.

Adjourned to meet at 9 o'clock A. M., to-morrow.

THIRD DAY, MORNING SESSION.

Met at 9 o'clock, A. M., according to adjournment.

The minutes of last session were read and adopted.

On motion of Dr. Goddard the election of officers was made the special order of business for 11 o'clock this morning.

On motion, Dr. Townsend was requested to read to the society such portions of two lectures delivered by him to the dental class in the Philadelphia College as he may think proper.

This request was complied with, after which it was, on motion of Dr. Taylor,

Resolved, That the lectures read by our President this day on Professional Courtesy, &c., be requested for publication in the "Dental Register."

Drs. Goddard and Dunning being appointed as a nominating committee, reported that under the circumstances, it was thought best to continue the present board of officers in office until the next meeting—said report was accepted and unanimously approved.

Dr. Dunning reported having found accidentally a much superior sharpening and polishing stone to the Arkansas stone; it is called Missouri oil stone.

The subject of separating the bicuspid teeth, with the best form of space to be left, was now spoken to by Drs. Dunning, Miller, Bishop, Webster, and others.

Adjourned to meet at 3 o'clock, P. M.

AFTERNOON SESSION.

Met at 3 o'clock, P. M., when the subject of removing the first or second bicuspid or first molar, for the purpose of giving room, where there was a prospect of a crowded dentition, was now discussed by Drs. Dunning, Bonsall, Goddard, Taylor, Robbins, Smith, Wheeler, Miller, Bishop, Webster and others.

On motion, the Treasurer was directed to pay the Janitor of the Ohio Dental College \$8 for services.

Adjourned to meet at the residence of Dr. Bonsall, at 8 o'clock this evening.

EVENING SESSION.

Met according to adjournment at the residence of Dr. Bonsall, together with several members of the medical profession, and others, and held a general *tooth talk*.

On motion of Dr. Dunning, it was

Resolved, That the thanks of the American Society of Dental Sur-

geons be, and they hereby are, tendered to our brethren of the Mississippi Valley Association, and to the officers of the Ohio College of Dental Surgery, for the courtesy and kindness extended to us during our sessions in Cincinnati.

On motion of Dr. Bonsall,

Resolved, That the thanks of this society be tendered to the President, Dr. Townsend, for the able, efficient and impartial manner in which he has filled the chair during our sessions.

On motion, Drs. Bonsall and Taylor, were appointed a committee to publish the proceedings of the meeting.

Adjourned, *sine die*.

CHARLES BONSTALL,
Corresponding and Recording Secretary, pro tem.

DR. TOWNSEND'S ADDRESS BEFORE THE AMERICAN SOCIETY OF DENTAL SURGEONS.

May 8th, 1855.—It is now fifteen years since the American Society of Dental Surgeons was organized, yet this is the first time that its members have assembled west of the Allegheny mountains.

The Atlantic slope has been heretofore most happy to extend its professional hospitality to the Mississippi Valley, and now at last it has the pleasure of enjoying the exchange of brotherly courtesies.

The reasons for this reciprocity have existed and have been felt and acknowledged long before the inconvenience of compliance could be well overcome, but I think I may speak with the clearest assurance for my brethren of the East, that they have found a new happiness in thus meeting and greeting their friends of the West in their own home. They come to you in a spirit that matches fully the welcome you give them. I cannot, in justice, say less, and I cannot possibly say more for the sentiment with which the brotherhood of the Atlantic this day greets that of the Mississippi.

But there is something more than equality of courtesy in exchange; there is a clear claim of right in it.

The dentistry of the West has honorably earned such fair recognition of its claims. The Star of Science, like the Star of Empire, westward holds its way, and the centre of influence is rapidly traveling toward the centre of territory.

I will not undertake to settle the west longitude of Cincinnati from the site of the professional observatory, but, however far it was behind time in the morning of our day, it seems to me that its meridian has

rolled itself fairly into the noon-tide, and that the whole difference of time is lost in the equality of light in which it now stands. I see nothing of the shadow of the Allegheny upon the science of the great valley, nor do the rays of your sun seem to slant any more than they do "down east."

But you are doubtless comfortable enough in the consciousness of your position without the help of our concessions, and it is only because you are justly entitled to a frank acknowledgment that we make it. You are none the richer that you receive your due, but we would be thus much the poorer if we withheld it.

The distance of time and place which we, who were earliest in this movement, realize to-day by its contrast with that beginning of professional association, presses upon us the feeling of many another change which we cannot wholly silence until it has had some sort of utterance. The time, the place, the circumstances are apt for a brief retrospect, and they are full of suggestiveness for the purposes of the present assemblage.

Fifteen years ago there were not more than 1,200 practitioners of dentistry in the Union. The United States census for 1850 reports 2,923, and the five years since elapsed have added perhaps 200 annually—bringing the number up to 4,000; one dentist for every six thousand of the population of the Union. In 1840 there was but one dentist for every 15,000 of the inhabitants. But this numerical increase of three to one must be multiplied three times at least, fairly to render the amount of the demand for the services of the profession. By this estimate, dentistry has risen at least nine-fold in public and popular requirement and consideration during the little life time of this society.

This growth in mere bulk and weight indicates a lusty youth, and promises magnificent proportions for that full manhood of the profession on which it is rapidly entering. But what shall we say of its scientific and artistic development during this period?

The men who best knew it then and now, would most feel the difficulty of adequately answering the question. The changes are in fact too great to be measured and reported in all their fulness and value.

Contemporary history is always difficult and sometimes dangerous. Exactness in statement and justice in judgment are scarcely attainable of things passing with ordinary rapidity through one's personal experience, but this history has had the rush of revolution added to the speed of natural progress.

If the analogy to a human life might be borrowed, we would be

justified in saying that our profession 15 years ago had just worried through its infancy. Since then its growth in all things has been that upon which the boy enters at the period of his puberty, a period of manhood in all its faculties and functions, wanting only the discipline of time and experience to strengthen his energies. At the beginning of this period there came into existence the first Dental College in this country and the world—now we have two others, the Ohio and Philadelphia Colleges.

Our periodicals also fall within this date, and one of them has 2500 subscribers. Facts like these are exceedingly brief in their statement, but they index volumes of progress, and register incalculable achievements. To my mind, however, there is no more striking indication of advancement than in the altered tone of the journalism and societary addresses which a comparison of the two periods discover. Then, the burden of every appeal was the prevalent charlatanism that infested the profession. Now, the educators, the professional authors and the orators of our meetings have almost forgotten to confess and deplore the degradation of our calling.

It has passed away to such an extent that we are occupied with that kind of self-improvement which implies no stinging professional reproach, but rather proves its healthful soundness. Twenty-five years ago not one in five of the practitioners of our art had attained much practical excellence—the exposure of a general incompetency lay in the mouth of almost every man we met; now, how seldom do we meet the old-time deformities of quackery and ignorance, and how generally good is the work that comes from all quarters of the country under the casual inspection of our most accomplished professors. I need not compare the porcelain and plate work, with the sea horse and blacksmithing of the respective periods which we are speaking of; I need not compare the surgery proper of the mouth and antra which has passed into the hands of the profession from those of the sister branches of Medicine; I need not insist upon the admirable control of irregularities, and the perfection of skill and material with which disease is now curatively treated, and the respectful confidence, with which the popular experience has awarded us; I need not insist that the medical faculty has recognized our fraternal rank in the general healing art; I need not point to the standard elementary books, which have grown into a library upon our shelves. I comprehend all this progress, and express the compass of all this attainment, by saying that we have reached the high point of respecting ourselves. The very preamble of our constitution, in which the necessity “to *give* character and *respectability* to

the profession, by establishing a line of distinction between the truly meritorious and skilful, and such as riot in the ill-gotten fruit of unblushing impudence and empiricism," has grown obsolete by its own successes. Even the Constitution of the Mississippi Valley Association, founded as lately as 1844, expressed the distressed anxiety to elevate the character and standing of our profession, and make it worthy the confidence of an enlightened public. The brief period of 15 years in the one case, and the still briefer period of 10 years in the other, have so altered the consciousness of the earnest men of those days, that they would scarcely think of admitting such mortifying necessities into the programme of an organization to be set on foot for the profession now.

Happily the great majority of dental practitioners now before the American people, have attained an average competency and character, and have acquired courage and confidence enough, to assert for themselves the claims of a liberal profession, and are so well relieved of the taint and suspicion of quackery themselves, that they can bear the contact of mediocrity, as well and as safely, as the faculties of law, medicine and divinity sustain their respective proportion of discredit for the same cause.

Even in the matter of provision for the classical education of our pupils, we compare with the professions of a century's growth in this country so well, that we may proudly challenge a just comparison. The 40,564 practitioners of medicine sustain 36 colleges, or one school to every 1,127 members. 23,939 lawyers have 16 schools, an average of one to 1,495 members of the bar. Our three dental colleges bear the intermediate ratio of one to every 1,333 practitioners. Thus stands the *preparation* that we have made for the systematic education of our profession on a fairly proportioned level with the highest.

The average of results is, of course, as yet below the standard before us. The students at the medical schools of 1850 were as one to eight of the practicing physicians. The law students, one to forty-five. Ours is perhaps as one to forty, or five times less than the proportion which we should sustain to those of the sister healing art. But our oldest college is of no more than fifteen years' standing, the next of ten, and the youngest but three, while collegiate education in general medicine counts to a full century of opportunity for its achievement among us. Give us but ten years more for our trial, and we will outrank them by every test that can determine the pretensions of a profession to the honors of a liberal competition. Ten years will put dentistry at par with medicine in its educational method and success, but without in-

vidiousness we are well warranted in claiming a greater exemption from quackery within our ranks to-day than they are compelled to acknowledge.

The principles of dentistry are better settled, its practice is better justified, its progress is more certain and rapid now than physic can with any show of truth pretend to.

If it be retorted that we are responsible for so much less; that our entire province covers but one branch of remedial practice—although it in truth involves every branch of medical science—we may answer that not one of the several branches which the parent stock bears has been cultivated into an equal perfection with that one which we have severed from the stem and cultivated with an exclusive care.

But, we may fairly claim something more than the faithful and successful husbandry of our own field of scientific truth; we have developed and demonstrated the method and system by which general medicine is yet to be improved, and our example will in good time compel it into conformity. After our plan of individualizing one distinct branch of remedial art, and making all the others justly subsidiary and subordinate to it, medicine will ere long be divided into surgery, therapeutics and obstetrics, at least. Separate colleges will be assigned to each, with an entire faculty of professors, limited in their teaching and controlled in their drift, by the demands of the particular department which the pupil is destined to practice in after life.

In that day of sounder philosophy in theory and better allotment of functions, Doctor of Dentistry will stand as the pioneer and historic type of the fully instructed Doctor of Physic, Doctor of Surgery and Doctor of Obstetrics. The memory of our quackery will be forgotten as a fault inevitable to our extreme infancy, and the parent profession will be purged of its own, which in truth is a vice of its constitution, not an accident of its infancy, but ripening with its growth into disease that nothing but such reformation as our policy prescribes can effectually remedy.

Thus already, both in achievements actually secured, and in prospects as certainly within our immediate reach, we stand in a position, "looking before and after," that may well justify a generous pride, and inspire a courageous confidence. Our observation, to use a nautical expression, satisfies us that we have been sailing on the high sea of adventure in the right direction, our bearings are all right, our distances show fine speed, and our voyage is all fair sailing before us.

Of one of the instrumentalities availably employed for our advancement, hitherto I have said nothing; I have reserved it because it is

that which most especially falls within the functions of the present assemblage, and because it asks a stricter criticism than those other agencies which are working something better for our uses ; I mean the voluntary association of the established practitioners of dentistry throughout the Union, for such purposes as it can be best made to serve.

The American Society was organized, like the Constitutions of the older States, in the midst of a revolutionary struggle. It had in it the best wisdom, and looked to the worthiest objects that the light of that day afforded, and the wants then urgently demanded. The roll of its first members is the record of the profession's best and worthiest men. They did their work with pure hearts, fervently, and noble fruits have been harvested of their right hand planting ; they have ripened richly for our use, and it is for us to replant them now in a larger field.

The changes that have passed upon the condition of the profession since its institution, in the nature of things, demand correspondent changes in its structure. It bears the name of American, but it is not in any tolerable degree national. It is no longer, as at first, representative of the full force, as well as the best spirit, of the fraternity. A number of names so small as it now embraces, might be enough and more than enough for the highest service in the *cultivation* of any science. In authorship and in professional teaching a score or two of able men might be sufficient for a country and an age, but the purpose of a national society is necessarily the aggregation, or at least the thorough representation, of the entire fraternity, in one organic movement. I venture the assertion that the proper and principal qualification of a National, or State, or County Society of professional men engaged in practice, is even more a question of numbers than of standing and talent, provided only that standing and talent are embraced within the number.

The exclusion and exposure of quackery, was the exigency of those days, and numbers was a consideration secondary to all the other objects of association. The sifting process was severely and successfully employed ; pledges against modes of practice, held to be irregular and open to great abuses, were exacted ; practitioners in good standing were subjected to a formal examination by committees of their equals, as a condition of admission to the society ; and, in the ardent zeal of the day for purity of doctrine, even the liberty of opinion, and the right of difference in practice were somewhat abridged. The strifes resulting bred wars within, as well as without, the camp of the faith-

ful, and the consequence has been a narrowing of the membership in proportion to the rigidness of its discipline.

The society did its work, but is it not also obvious that it has almost lost its capacity for the work that is before it? The Apostles of the New Testament Dispensation think so of the Prophets of the Old, and it is the one lesson which history teaches of most practical value to man, that the men of new times must be allowed to organize the institutions and administer the affairs of their own day.

My motives, I am conscious, need no concealment; my personal position and involvements must acquit me of all suspicion of irreverence and ingratitude to the past, to my own compatriots, and to my fellow laborers. My meaning is, therefore, frankly avowed: speaking for myself, and reflecting the sentiments of a large number of the men whose judgment I profoundly respect, I aim at the regeneration, the rejuvenation of the American Society, by such adjustment to the present condition of things as may happily make it as truly broad and national in spirit and action, as it is in name and design. Its position in the profession should be changed from *exclusiveness* to *inclusiveness*. It should be made comprehensive and representative of the whole professional talent of the nation. It cannot answer the best and broadest of its aims in any other way.

I do not think that a national society of educated men must necessarily be a synod of savans, an aristocracy of talent, a first estate in the realm of science, but, that it bases itself really upon a conceded republican equality of rights and duties, and ought to be democratically representative. Let the profession as it is, liberally embracing all that is fairly professional within it, in fact be fully recognized, and let the common interest take the care of the common weal. Association of superiority with mediocrity can work no injury to the common interest or reputation, but must be productive of improvement every way. The profession, abstractly, has a character which is no longer endangered by the unworthiness of pretenders. Admission to membership on open and even conditions is no endorsement of the standing of individuals, and works no responsibility of the whole for its parts. The common right of election held by all societies is protective enough of all that concerns the association, and the respectful deference of such an acknowledged equality will secure the support and services of the whole body of the great brotherhood.

No member of this society holds that its certificate is the sole evidence of respectability. He does not govern his own etiquette by any such a test, and why should he insist upon it as a condition of associa-

tion in society, any more than in his daily practice? The whole argument may be made to fall fully within a clear statement of it, which I would put in this form: Is it the business of respectable dentists, now, to purify the profession, or to improve it—to purge, or to diet and strengthen it—to administer alteratives, or tonics—to salivate the convalescent patient, or to prescribe wholesome nourishment and regenerating exercise?

Let us, my brethren, drop the notion that we have our own respectability to care for. It will care for itself, if it needs any; and let us take up that other idea, that our relations to our brethren now demand a frank devotion to their interests, and the general advancement of our calling. Let us turn reverently to our predecessors and our compatriots of the earlier day, and render them the homage due for a wise, brave and successful championship of our honored calling, and pledge ourselves to as ardent, as devoted and as worthy an effort to serve the enlarged interests which we have and hold now by inheritance from them.

The essential aims of our association are well expressed in the preamble to the Constitution: "The objects of this society are to promote union and harmony among *all* respectable and well-informed Dental Surgeons; to advance the science by free communication and interchange of sentiments, either verbal or written, between the members both in this and other countries." The Mississippi Valley Association in different terms expresses the same intention. "We deem it expedient to form an Association for purposes of mutual improvement in the science and practice of our profession, to promote the exercise of that gentlemanly courtesy which should characterize members of liberal professions in both social and professional intercourse; believing also that by frequent interchange of opinion and observation in practice, by reporting, from time to time, cases of interest as they occur in individual practice, we may do much to elevate the character," &c.

The American Society of Physicians and Surgeons, and a long list of associations among the cultivators of liberal learning and arts, assign similar objects for similar organizations. The members of the learned professions who feel the necessity of a forward movement, and the friends of general education, are all using the method of such personal conference, discussion and oral communication, on a clear perception of its special advantages and of its remunerating value in the service of professional interest and general learning.

It is not necessary to detail these advantages, or to dilate upon the utility of organizations among professional adepts; they are too well

understood, too well warranted by experience, and they are not disputed. I allude to them only to invoke their proper force in urging the endeavor to make our society answer all the ends of which in the nature of things it is capable; and I submit to the best judgment of its members their duty of adopting whatever measures may seem to them necessary and best adapted to put it abreast of the times.

How shall we make its actual agency co-extensive with its avowed objects is the question; and our duty to the profession requires that we solve this question and resolve upon the expedient. I doubt not that this assemblage is competent to the devising of some proceeding which will early and happily answer the question.

For the Dental News Letter.

PLUGGING FRAIL TEETH.

BY PROF. WHITE.

We plugged a frail superior right canine tooth in which the pulp had been dead for some time. The operation was performed on the morning of the 9th of June, to the entire satisfaction of the patient and ourselves. We gave the patient the usual precautions under such circumstances, and received our fee for it from our delighted patient. On the morning of the 11th, the patient was observed in our waiting room with somewhat of a serious countenance; as soon as we could, we gave him attention, and to our great surprise he directed his index finger to that region of the mouth about which we had been so recently operating. Without uttering a word, and knowing full well, doubtless, that we could readily discover for ourselves what he meant—to our amazement we saw nothing but an old stump of a tooth, it was all that was left of our splendid artistic achievement. It had fallen a sacrifice to a piece of *tenderloin* on the 10th, whilst at dinner. Pray, reader, were you ever so unfortunate?

Dr. Keep remarked upon the prevalence of phlegmonious inflammation of the gums, and in the slower degrees of it, where there was no great tendency to suppuration, he had found the application of an ointment of six grains of veratrine to one drachm of lard very efficacious in quieting the pain. A piece about the size of the head of a pin is the usual quantity applied, and its effect is to produce a sensation of warmth. *Dr. K.* alluded to a case where it was feared that it might be necessary to remove the tooth, but the application of the veratrine had completely quieted the irritation.—*Boston Medical and Surgical Journal.*

For the Dental News Letter.

NOTES FROM MY CASE BOOK.

BY PROF. J. D. WHITE.

Mr. F——, a gentleman of about thirty-three years of age, presented himself for advice, from observing that his gums were receding from his teeth on the left side, especially on the superior maxillary. We examined his case and remarked, that it was *atrophy* of the parts generally, as there was no tartar or sponginess of the gums, except about the second superior molar, and that was coated with a thin incrustation of black tartar, which had dissected the gum entirely away from the whole depth of the buccal roots, and over the extremities of all the roots, so that a probe could be passed around the fangs, leaving nothing to retain the tooth in its place, except a small amount of gum near the neck of the palatine root. We also remarked to the patient, that the whole side of the face looked less full than the opposite, and was also somewhat wrinkled. He then remarked to us, that he had no *sensibility* on that side of the face, nor had had for about fourteen years, from an injury which he had received about that time, from an accident he had met with of cutting off one of the nerves above the left eye, by falling from a hay loft, a distance of about twelve feet, to the ground, and striking the part against a block of wood. We removed the molar tooth for fear of injury to the antrum. We cut the gum away with a lancet, without the slightest pain, and advised the patient to chew on that side, as it might help to improve the firmness of the teeth, as they seemed to be a little loose for want of use, but he remarked that he could not manage food on that side, as he *lost* it; it would either work unconsciously out of his mouth, or down his throat; he could not tell when it was between his teeth, as he could not feel it with his tongue or cheek. His teeth were not sensitive to cold on that side of the mouth at all, until within about two months, nor any of his teeth to any extent, but all at once the teeth on the right side became very sensitive to cold, which he attributed to taking *phosphorus* in *Homœopathic* doses, for partial deafness, and from which he believed he had derived some benefit. His right cheek would frequently present quite a healthy flush, but it never appeared upon the left. His vision was perfect, and the dilatation and contraction of the iris regular and complete, when exposed to light and darkness. His taste was also considerably improved. We told the patient that we did not think the loss of sensibility could be attributed to the injury of the supra-orbital nerve, but to concussion of the brain, as the locality of the origin of the nerves of sensation to the face was opposite to the point where the blow had been received.

For the Dental News Letter.

TO THE EDITORS OF THE DENTAL NEWS LETTER:—*Gentlemen*—In the May number of the New York Dental Recorder, edited by C. W. Ballard, in his editorial he says, his opinion has been asked by a number of the profession, with regard to my improvement. In doing so, he wholly misrepresents the *modus operandi*; and by so doing he has done those asking information and myself injustice. Who that has ever seen a set of teeth mounted on my method, or have ever read a description of it, ever thought it would enable the mechanical dentist to mount a set of teeth without the aid of the blow-pipe? And yet he has the hardihood to inform the public that it will, and argues from that data, that the teeth will not be so secure as they would be if soldered on. Now when a data is false the conclusion must be false also. If, in reply to the inquiries, he had stated that he had never seen a set of teeth mounted upon my principle, or read a description of the work, he would have come much nearer the truth.

I will here give the testimony of one member of the profession, out of the numerous testimonials in my possession, to contrast with this honorable gentleman. Professor *James Taylor*, of Cincinnati, in the April number of the Register says, I have tried Dr. Rickey's method of mounting teeth in a number of cases with good success, and it possesses MUCH MERIT.

I will leave the matter for the present for the public to decide, whether a journalist is justifiable in misrepresenting matters of public interest. By giving this a place in your valuable journal you will confer a favor on your friend,

J. K. RICKEY.

Keokuk, Iowa, June 4, 1855.

Charles Wilson Peale.—In a short sketch of the life of this celebrated portrait painter, by his son, which was recently published in one of our city newspapers, we find the following allusion to the teeth which he made for himself many years ago, probably about the close of the last or beginning of the present century; the precise date, however, we are not able to give. In the proceedings of the commencement of the Philadelphia Dental College, published in the April number of Dental News Letter, for 1853, mention was made of this matter by the present Mr. Peale.

After enumerating his many useful acts and ingenious contrivances, the writer says: "*and by inventing the first porcelain teeth, when they were experimenting with them in France, he prolonged the comforts of his old age and those of a few friends.*"

J. R. M'C.

THE DENTAL NEWS LETTER.

JULY, 1855.

DYNAMOMETER.

We remarked in the April number of the News Letter, that we would commence a series of experiments, in company with Prof. Arthur, on the condensation of gold foil, for every one's use, with an instrument which we had invented for the purpose. We have not had the pleasure of the assistance of that gentleman, as his time and ours did not suit; but of that of Dr. Gorges, who has been our assistant for a number of years. We do not propose by these experiments to show so much how teeth can or ought to be plugged, as the relative density between *melted* and *packed* gold, and the difference between the required pressure for the different numbers of gold foil; beginning as low as No. 4, and also, how much pressure can or may be exerted on a plug in the mouth. We have one instrument for testing the pressure out of the mouth, where as great a force may be exerted as fifty pounds; and one for plugging in the mouth, where as great a force may be applied as forty pounds. But we have not applied a greater amount of force in the mouth than thirty pounds, at least that was as much as we were willing to risk; not over two hundred; as has been surmised of us, *waggishly*, we suspect. It will also correct a very mistaken notion that some dentists entertain, as regards the great amount of pressure that they fancy they are in the habit of applying. It will give an idea of the kind of point that is best suited for condensing gold.

We have tried the density of many plugs in the mouth, but as yet have found none that would bear thirty pounds on all points; we have only tried crown fillings. We do not mean to say that there are no plugs that will bear that much pressure, but we now say, as we said before, that plugs have not yet been made *in the mouth* sufficiently dense to prevent absorption of moisture from the tooth; and, moreover, that gold foil is never packed in a tooth so dense as to be of greater specific gravity than melted gold. We will give cuts of the instruments in the next number of the News Letter, as well as many important matters in relation to how an instrument should be held in the hand, to effect the greatest amount of force with the least effort of the operator.

Experiment No. 1, pressure sixteen pounds.—Gold foil No. 4, rolled into a rope, about two grains, or half a leaf, in the fingers, and introduced into the cavity with a plugger held with the end of the handle resting on the palm of the hand, in a line with the wrist; there was no more frequent efforts of the instrument made here than to pack the cavity in a straightforward direction until the cavity was full—that is to say, that there was no repetition of efforts on the same spot in order to gain density by repeated strokes of the instrument. There was a good deal of manipulating with the instrument, with imperceptible pressure, to place the roll of gold in such a condition as to bear the pressure of sixteen pounds without cutting the gold too much with the plugger; it was our usual packing plugger. The aggregate amount of pressure was six hundred and twelve pounds; the plug was nearly three grains weight, compared with a melted plug run in the same cavity; it was not as heavy; when water, was placed in contact with this plug it did not take it up perceptibly, as is true of the hardest sponge gold plugs we have ever seen, and we have specimens from the best operators here; they take up water when it is applied in contact with the inner surface of the plugs, instantaneously.

Experiment No. 2.—Gold foil No. 4, at thirty-two pounds pressure, used as in experiment No. 1; twenty-nine strokes of the plugger; aggregate pressure, nine hundred and twenty-eight pounds. This plug was much heavier than plug No. 1, with nine strokes less of the instrument, but three hundred and sixteen pounds more pressure; thus in round numbers there was a more dense plug made in No. 2, in about three-fourths of the time, than in No. 1.

Experiment No. 3.—Gold foil No. 4; maximum pressure sixteen pounds; rolled on a narrow watch spring, which forms a cylinder similar to those described by Dr. J. S. Clark, of New Orleans; but instead of cutting the cylinders in short pieces and making them pointed, we start at one side of the cavity, in plugging a tooth, and fold the cylinder upon itself until the strip—the length of the leaf of gold—is exhausted, leaving the convolutions project a little way above the margin of the cavity. We have described this method before for building up the walls of cavities. We think the method of Dr. Clark is the best we have ever seen, and we impatiently await a full description of his method of plugging. The only objection that we see in the method is, that it would be too slow and difficult to manage the cylinders, except in cavities easily approached; still, we will wait for full details and try the method. We have enlarged our cavity for experiment since the two first were made, and find that it contains four and one-sixteenth grains of *melted gold*. This

experiment was made as though we intended to make it in the mouth, and have estimated the slight efforts of the plugger from three pounds and upwards. The aggregate amount of pressure was five hundred and seventy-eight pounds; strokes of instrument fifty-two; twenty-six at sixteen pounds, the rest ranging down to three pounds; lighter manipulations not noted; the plug was much lighter than solid gold; average of strokes of the instrument about thirty-six, at sixteen pounds pressure each.

Experiment No. 4.—Gold foil No. 4, prepared as in experiment above, at thirty-two pounds maximum pressure; minimum three pounds; aggregate pressure nine hundred and eighty-six pounds; nineteen strokes of the instrument at thirty-two pounds, and thirty below; average number of strokes at thirty-two pounds, about thirty. This plug was heavier than plug No. 3, but not as heavy as melted gold. Thirty pounds pressure is too much on No. 4 gold, as the instrument cuts it up too much with direct force.

Experiment No. 5.—Gold foil No. 8; cylinder or folded gold; maximum pressure thirty-two pounds, minimum three pounds. No. 8 leaf cut into three strips, and then rolled on the spring; aggregate pressure sixteen hundred and eighty-four pounds. Thirty-two strokes of the instrument at thirty-two pounds, and thirty-nine below that amount; average number of strokes of the instrument at thirty-two pounds, about fifty-two. This plug was not as heavy as No. 4 experiment with No. 4 gold, and yet there was not as much labor exerted upon it; being about six hundred pounds in favor of No. 8 gold. The plug of No. 8 gold is harder but more porous than No. 4 gold; none of these plugs were made by a frequent repetition of the force in the same place, but merely to gather and place the gold into the cavity as rapidly as it could be done.

Experiment No. 6.—Gold foil No. 8, with pressure prolonged in every direction, and a small amount of gold at a time, so as to make the plug as hard as possible; maximum pressure thirty-two pounds, minimum three, as before. This plug was heavier than Experiment No. 4 or 5, but not as heavy as melted gold. There were fifty-three strokes of the instrument at thirty-two pounds pressure, and forty-nine below; aggregate pressure, *twenty-six hundred and six pounds*; and this enormous pressure did not make the plug as dense as melted gold. Average number of strokes of the instrument at thirty-two pounds about eighty-one.

Experiment No. 7.—No. 4 gold used as in experiment No. 6; pressure prolonged until we thought the plug was as hard as it could be made by thirty-two pounds pressure as a maximum, and minimum

noted, three pounds ; aggregate pressure two thousand and two pounds ; number of strokes of the instrument at thirty-two pounds pressure thirty-nine, and below that fifty-two ; aggregate number ninety-one, and average number at thirty-two pounds about sixty-two. This plug was not quite as heavy as No. 6 experiment, No. 8 gold ; but there was about six hundred pounds less pressure made, and ten more strokes of the instrument.

Experiment No. 8.—Dr. A. J. Watts & Co.'s sponge gold used as directed, in the same cavity that the foil plugs were made in ; highest pressure thirty-two pounds, lowest noted three ; aggregate number of strokes of the instrument seventy-one, sixty at thirty-two pounds, and eleven below ; aggregate pressure two thousand one hundred and twelve pounds ; average number of strokes of the instrument at thirty-two pounds, about sixty-six. This plug had a greater number of strokes of the instrument at thirty-two pounds than any other experiment to give it all possible advantage. It did not embrace the cavity as tightly as the foil plugs, as it dropped away from the cavity as soon as the instrument was opened, which was not the case with the foil plugs. The external surface of the plug, where it touched the walls of the cavity, was not as bright as the plugs of foil, and it absorbed water when placed in contact, rapidly, which was not perceptible in the foil plugs.

These plugs were all made as much as possible by plugging from the bottom of the cavity, in order that the instrument would test better the amount of pressure made. There have been more pounds of pressure made here than is noted ; the friction of the shaft of the instrument may have retarded its operation somewhat when deviating from a straight line.

Recapitulations of the four last experiments.—Melted plug 4 and $\frac{1}{16}$ grains.

Experiment No. 6.—Gold foil No 8 ; aggregate pressure 2,600 pounds ; weight of plug 4 and $\frac{1}{32}$ grains.

Experiment No. 7.—No. 4 gold foil ; aggregate pressure 2,000 pounds ; weight of plug 3 and $\frac{3}{32}$ grains.

Experiment No. 8.—Sponge gold ; aggregate pressure 2,112 pounds weight of plug 2 and $\frac{3}{5}$ grains.

These experiments were performed with Abby & Son's foil, prepared for the purpose.

J. D. W.

Cover—For report from Franklin Institute ; New Agents ; Advertisements of Dental Colleges ; New Improvements in Lathe ; Improvement in Dental Chairs, etc.

AMERICAN DENTISTS ABROAD.

Dr. C. R. COFFIN, formerly of Portland, Maine, a graduate of the Baltimore Dental College, has recently located himself in Manchester, England, with very flattering prospects. Dr. F. COAR of Philadelphia, a graduate of the Philadelphia College of Dental Surgery, has gone to St. Petersburg, Russia, with a view of practising his profession; and as he was abundantly provided with letters, some of which are of a peculiarly valuable character, we can have no reasonable doubt of his success.

There are now about thirty-four American Dentists practising abroad, among whom there are a few foreigners by birth, but Americans by education, and we therefore must claim them.

In Paris we have Drs. BREWSTER, the two EVANS', HORNOR, Tucker and Gage, and Fowler and Preterre; Berlin, Drs. Abbot and Dumont.* Vienna, Dr. North; Madrid, Dr. Mackeehan; Hamburg, Dr. Cohen;* Gottenberg, Dr. Bazier; London, Dr. Ballard and Dr. Rahn; Manchester, Dr. Coffin; Edinburg, Dr. Hogue;* St Petersburg, Dr. Coar; Lisbon, Dr. Starbuck; Constantinople, Sarkis Hackadoorian;* Rio Janeiro, Dr. Van Tuyl; Pernambuco, Dr. Baynon; Bogota, Dr. Chambers; on the Island of Cuba, some eight or ten.

There are still others whose address we cannot now obtain, but we shall add to our list as opportunities occur.

This, it will be seen, is a very promising list of representatives abroad, and cannot but reflect honor on our profession and country.

We annex a letter just received from Dr. Chambers. We would be pleased if all would correspond with us, giving, in addition to their location, any items of interest they may be possessed of. J. R. M'C.

For the Dental News Letter.

MESSRS. EDITORS:—In looking over the "News Letter" of July, which I have just received, I see an article giving notice of American dentists abroad, with the desire, if there are any not mentioned, to send their names.

I take the liberty of sending my card. You will see I am located in Bogota, capitol of the "Republic" of New Grenada. I am from Philadelphia; studied with Dr. Wm. R. White, in the years 1851-52. In October, 1852, I left for this city, where I ever since have been practising with pretty good success.

French Dentists Abroad.—On my arrival in this city, I found several French dentists, or at least so said their large flaming signs.

*These are foreigners by birth, but Americans by education in their profession.

Men, I soon found out, who had never learned the profession ; who did not understand the process of plugging with gold, but were pretty expert in the *plastering line*. The idea in these days of filling front teeth with an amalgam of mercury, &c., and telling the patient that it is better than gold, as these men generally do ! A tooth filled in this manner, of course in a few days turns black, and then the patient finds out that he has been “ taken in and likewise deceived.” Their manner of inserting teeth is on wire, and pieces of thin plate not much thicker than foil soldered together, not struck up, but pressed with the finger to fit the mouth, with teeth resembling pieces of china plates, (old French teeth.)

One of these gentlemen received a few days ago from the States some extracting instruments ; by chance, among the lot, he was sent a plugging forcep. After puzzling his head for a long time to find out the use of it, and being unsuccessful, he called on me and requested that I would do him the favor to tell him how to use it. I commenced explaining to him how it was used in plugging,—when he opened his eyes and exclaimed “ for plugging ! Well, I thought it was a d—queer thing for pulling out teeth with.” My opinion is that French dentists abroad, or at least what I have seen of them, are a *long* way behind the age. No more at present.

Believe me, gentlemen, very respectfully

Yours, &c.,

WM. CHAMBERS.

Bogota, Feb. 3, 1855.

To Correspondents.—W. L. T. is respectfully informed that his communication was received, but that we deem it both unnecessary and impolitic to renew a discussion which must partake so largely of a personal character, and as we hope, has been disposed of, and without detriment to him. We will preserve the documents, in case their publication should become necessary, which we must be allowed to say we do not think is the case at present.

W. A. P. and C. E. S. will notice an article on the same subject in the present number from another party, which was in type before their letter was received, and to which we have appended some remarks. We therefore deem the publication of their letter unnecessary.

New Postage Law.—It will be remembered by our correspondents that the new law demands that the postage be prepaid, or the letter will not be forwarded. We have reason to believe that this has been neglected by some of our correspondents, which will account for the not receiving answers.

J. R. M'C.

The Dental Obturator: a Quarterly Journal, Devoted to the Science and Art of Dentistry. Edited by JOHN S. CLARK, D. D. S., and Published by H. D. McGinnis & Co., New Orleans, Vol. 1, No. 1.—

This is the first issue of a very attractive quarterly of thirty pages. A large portion of the matter in this number is from the pen of the editor, and this, to those who know him, will prove a strong recommendation. The work is destined to become popular with the profession.

We quote from his introductory, "A word to and of the Profession South." "While the ever enterprising portions of the North and West have their colleges, their societies, and their periodicals, to strengthen and combine their efforts, we of the South have no means of communication, except through those channels.

"*The Obturator* is offered to the profession as an attempt to (*Obturare*) place in that territorial vacancy the means of *closing*, in some measure the *portal* to error, and if possible, of *shutting out* malpractice from the land of the most willing people on earth to remunerate for really good operations. Dentistry ought to be absolved from sinister considerations everywhere; but there are points that offer facilities, and also points that are prolific in hindrances to successful demonstration. One of those points offering facilities is the South, and much ought to be expected of the southern practitioner."

We might add greatly, and with interest, to this extract, but space forbids, yet it will suffice to show that the object is to supply and maintain a *Southern Journal*, and one of a high and honorable character; in other words, that the South shall have an opportunity to "make her mark." This the *Obturator* will accomplish, if sustained. Shall we be? Let the South answer. That none may be ignorant of its existence, or to what person or point to send their orders, we annex the address of both editor and publishers. JOHN S. CLARK, D. D. S., 21½ Canal street, New Orleans. H. D. MCGINNIS & Co., 36 Camp street, New Orleans.

The editor will please accept our best wishes for his success in this, and his new enterprise.

J. R. M'C.

Dental Convention.—We are requested to direct attention to the call for a Dental Convention to be held in Philadelphia, August 2, which will be found in our pages. It is hoped that there will be a large attendance—that every state will be represented, as the object is an important one and well worthy the consideration of the profession. The character of the gentlemen having the matter in charge is sufficient guarantee that everything will be done to secure a pleasant and profitable meeting.

J. R. M'C.

An Essay, to prove the Contagious Character of Malignant Cholera, etc. By BERNARD M. BYRNE, M. D., Surgeon U. S. Army.—Second Edition. Philadelphia, Childs & Peterson. pp. 160.—It does not come within our province exactly, to review books of this character, as they are not immediately, and scarcely remotely, connected with our profession; yet, in justice to the publishers, who have kindly sent us a copy, we make this simple notice. The author takes the ground that Cholera is contagious, and lays down three general propositions, as follows :—

First—*That the poison of cholera is communicated from one human body to another.*

Secondly—*That it is extremely subtle and diffusible in its nature.*

Thirdly—*That, in a large majority of cases, it is incapable of developing disease, unless assisted by an exciting cause.*

The subject is treated under various heads and in a clear and concise manner; and the author makes the most of which his subject is capable, and almost convinces us even against our wishes. We would with all modesty, commend the work to professional readers generally, as well worthy a careful reading.

J. R. M'C.

Death of Dr. Kilburne.—We copy this notice from a Vermont paper: "George Henry Kilburne, dentist, departed this life, in Montpelier, on Monday, April 9th, aged 32 years, after a sickness of about five months. His disease was pulmonary consumption, which he bore with fortitude and patience.

We are pained to announce the decease of Dr. G. A. PLANTOU, dentist, of Philadelphia. Dr. PLANTOU was, we believe, the first President of the Pennsylvania Association of Dental Surgeons, and shared the respect of his fellow members. He was a neat operator, and very ingenious and successful in his experiments in the plastic department of dentistry; all of which brought him, and deservedly, a fine practice. The profession will sustain a loss in his death.

We also announce the death of Mr. C. C. PARRY, dentist, of Philadelphia, of apoplexy.

J. R. M'C.

A Guide to Mothers and Nurses in Directing First and Second Dentition, with Hints to the Adult, etc. By C. P. CULVER, Surgeon-Dentist, Rome, Ga.—This is a little book of sixty-two pages, designed, as the title implies, for non-professional readers; and the design is well carried out, chiefly by judicious and appropriate selections.

J. R. M'C.

Seven Nights with a Methodist Pastor, from Fireside Sketches. By the VICAR OF ARLSBURY. Philadelphia: Henry S. Getz, 140 Chestnut Street.—This is a pamphlet of thirty-one pages, which, although not in any way connected with dentistry, may yet be read with pleasure and profit by the profession.

It is of a religious, reflective character, and is well calculated to touch the heart, and warm into more active existence, the devotional feelings, engendered in early life by the teachings of religious parents, and which we too often neglect and sometimes forget. We commend it to the general reader.

J. R. M'C.

Enlargement.—In consequence of a press of matter—and good matter too—we have added *sixteen pages* to the present issue. We trust this will be taken as an additional evidence of our desire to *keep up* with the times.

J. R. M'C.

On Cover—Will be found a card from Dr. Hunter, of Cincinnati, explaining the result of the trial for infringement of patent, recently had between Dr. Allen and himself. As it interests all, we trust all will read it. Also an advertisement from Dr. Allen.

J. R. M'C.

Dental Practice For Sale.—On cover will be found an advertisement offering a dental practice for sale. We suppose the location a good one, and worthy the attention of those desiring a position in the West. Also, a practice for sale in Canada, to which we desire to direct attention.

DENTISTRY.

BY E. G. TUCKER, M. D.*

The Science of Dentistry is of recent origin. I do not refer to the subject, so much as to the science; for the dentist has long been known, but without that systematic knowledge of his profession which distinguishes Medicine and Surgery.

The surgeon and the physician have performed the duties of the dentist and they were not regarded for a long period of time of sufficient importance to justify a separate profession.

Dentistry was first considered as within the province of the *physician*, or under that title, all matters of the human system, from the coronal region of the head to the under angle of the heel, or projection of the

* This paper was prepared with the view of reading it, by appointment, before the American Society of Dental Surgeons, at the meeting recently held in Cincinnati, the author being unable to attend, kindly placed it at our disposal.—ED.

five toes, came within the sphere of his judgment and prescription. The subdivision of this profession gave birth to that of the *Surgeon*, allotting the power of drugs to the direction of the former, and the use of all instruments of operative skill to the latter.

In the large cities of Europe, these professions are quite separate and distinct, and as population increases, the same subdivision of duties will take place in this country. As all professions grow up in a community in reference to pecuniary income, a dense population is requisite to subdivisions of skill and labor, so that each class may be sustained by a sufficient number of cases to which they stand in relation.

When the invisible diseases of the human system, give a sufficient number of cases to occupy the time of the physician; or when the accidents, deformities and osseous corruptions of men are sufficiently numerous to consume the time of the surgeon, then each may pursue his own branch of the profession with more knowledge, more skill and more success than he otherwise could, having to study a series of causes and effects so totally different in the two cases.

Although in this subdivision of the professions the operations on the teeth continued to be a portion of the Surgeon's duty, still, as the chief elements of *Surgery* are widely different from those of *Dentistry*, a second subdivision became as necessary as it was natural.

The study and practice of surgery proper involved principles connected with anatomy and physiology, in view of the healthy growth of the physical system, and the proper management of injuries and diseases to which it is liable. All laws of organic life are studied in reference to probable or possible diseases and accidents, and in connection with this knowledge mechanical skill often becomes united.

In dentistry the knowledge of the physician becomes requisite in connection with the skill of the surgeon, as applicable only to the teeth. He becomes in fact in this relation a *chemist*, an analyser of those properties and conditions of the human system, whether in health or disease, which tend to disorganize, or to continue unimpaired the enamelled instruments of the human jaws, to enable them to perform their important functions.

The fact that our profession was the second offset of the science of medicine, and that it might be practiced, apparently, without much skill or knowledge, has tended to place it in irresponsible hands, and retard that advancement which the age evidently requires. The science has had no prescribed limits, being mixed with medicine and surgery, receiving but little form from those connections, and with

being the legitimate prey to quacks, and the ultimate resort of disappointed mechanics.

These things have been, and still are, but I feel persuaded that we have reason to congratulate ourselves, that a higher destiny awaits us. An important end has been gained in the fact that the *public acknowledge our distinctive vocation* as connected with science, and there is no reason to fear that any proper exertions, on our part, to elevate and advance our profession will be unappreciated by those who are or may be our patrons or subjects.

All causes which enfeeble the constitution produce effects which may be distinctly traced to every part of the human system. Such causes, combined with habitual carelessness, render our profession an important one, for, as every tooth has a nerve or nerves connected with it, we are called upon to avert the sufferings of *many subjects*, while the physician stands in relation to but one. We have a difficulty to meet in the supposed knowledge of our patients.

The adult thinks that *he* can judge for the best good of his teeth, and when our professional services are called for, it is with the view to *consultation*, rather than the seeking of our advice and practice. If we advise too much, we are accused of an unholy desire to enlarge our bills; and if too little, of ignorance and carelessness.

The parent judges for the child, and then decides to consult the dentist. If the child is full of courage, the parent assents to our course, however painful; if the child be adverse, the parent yields, and the sympathy of the dentist is appealed to to forego the operation, that he may not be grieved by his cries,—and a permanent evil is permitted, to avoid a temporary one. It was said by a distinguished *lecturer*, that there were three essential requisites in the formation of the character of a good physician, viz., “industry, honesty, and common sense,” but, according to my apprehension, he omitted one important element, and that is **FIRMNESS**.

The dentist should be consulted for his *knowledge* and *skill*, and the standard of action should be within *himself*, to do what *he thinks best*, without any regard to the wishes of the patient. The physician is not called to prescribe a particular medicine in a given case, but to prescribe whatever remedy he deems best for the case submitted to him. He would regard it, and justly, that such a request would be an act of disrespect; and such should be the standard of the dentist.

If the patient has a desire to control our practice, it is but justice to ourselves to teach him that all our operations are governed by our best judgment, based upon the results of experience.

I need not dwell upon this part of my subject, for all of you, doubtless, have examples in mind sufficient fully to illustrate the truth of what I have advanced. Some are actuated by *pride* to save a tooth that had better be extracted; while others have too little patience to bear a temporary pain to secure a future good. If we act promptly and according to a scientific standard, we should not only relieve ourselves of unpleasant consequences which are ever entailed by acts of ignorance or of weakness, but secure the grateful appreciation of those who place themselves in our hands, in the confidence that we shall do them entire justice.

The teeth of the child cannot be too narrowly watched, so that irregularity or deformity of growth may be prevented. The second set of teeth frequently tend inwards or outwards, and sideways, according as they are obstructed by those of the first set. When all appear irregular or crowded, the removal of one or two at a time will enable us carefully to judge of the next best step. To remove a larger number at any one time would not be prudent. It often happens that we are called upon to remove a large temporary tooth before its successor is discoverable, and here it is sometimes difficult to persuade the parent that we are doing right in refusing to free the little sufferer from pain.

It is obvious that our duty is plain in such cases. The removal of such a tooth would often lead to the contraction of the jaw in a manner to oppose the growth of the coming tooth just starting.

In respect to the process of the first coming of the teeth in infants, I shall say but little, inasmuch as dentists are seldom consulted in regard to them. I would remark, however, that children often suffer much from the cutting of their first teeth in consequence of the pernicious habit of deviating from that simple diet which nature designed as the first aliment of the child. The constant violation of the natural laws destroy, in some degree, the healthy circulation of the system and impair the digestive functions of the stomach.

Any interruption of the kind inflicts pain upon the little being in its physical developments, particularly in the cutting of its teeth, and should be therefore carefully avoided. As it would be presumption in us, or in any one, to question the economy of nature, it must be admitted that all her arrangements are right, if not abused. The design of the teeth is sufficiently obvious without any elucidation from us. Their object is known and acknowledged, certain theories to the contrary notwithstanding. The first, or temporary teeth are doubtless designed to last until the second set are ready to appear. Nothing but bad health or *bad management* can lead to a different result. A

observer of the gradual development of the human system will perceive at once the *rationale* of different sets of teeth. But few have the precocity of Richard the Third, who claimed that he was born with his teeth already cut, and we find these important instruments adapted in size and order to the age and condition of the being for whose use they are designed.

The wants of the child and the size of his jaw bone require and admit only of small teeth.

Being of constant use, the natural laws of growth do not admit of that increase of size and durability necessary to the age of man, and hence the shedding of the temporary teeth to give place to others suited to the increase of age and size. It becomes an important subject of study how these changes of organs may be best regulated, so that we may secure comfort and avoid suffering.

It is no longer needful for us to urge upon people that their comfort requires not only strict attention to the condition of their teeth, for the knowledge is fast spreading among them, but that professional aid is as important in this as it is in other respects.

The great question now with us should be, how may we advance the science of *dentistry* so as to command the approbation and secure the confidence of the public, and at the same time satisfy our own self-respect. The responsibility of a new profession is upon us—a science whose independence the public has acknowledged is now to be defined, characterized, and to be put into a living form.

I design these preliminary remarks as tending to that union of exertion, of study and skill, which this period seems to demand. Although we have reason to rejoice in the glimpses of light within the small circle of our practice; yet, our course is of necessity in some relation to the ignorance beyond our limits. The existence of quackery implies ignorance, and ignorance is an unguarded inlet to imposition. Our endeavors should be to increase our knowledge and skill by constant interchange of views, and to lessen without us that blind ignorance which is obstinate because it is blind.

In view of this object I offer the following remarks as the result of my experience, hoping that they will have the tendency to elicit others of superior claims to your consideration and confidence.

It hardly need be stated that good health is a necessary condition to good teeth, and that they in turn are necessary, in a great degree, to good health; and, furthermore, that the teeth are sound or otherwise according to the constitution of the person. The laws of hereditary disease are to be studied in relation to the teeth, as well as in relation

to the more vital parts of the human system. These laws are too well known and understood to require any particular notice from me further than to recognize the fact and to suggest that attention to the digestive organs and to cleanliness which may tend to lessen evils which no skill can entirely remove. Whatever tends to derange the stomach tends to the destruction of the teeth.

At the completion of the second set of teeth I often find it necessary to extract one from each side of the upper arch. When the bicuspid or small double teeth are defective, one on each side should be removed. If the first molar be decayed badly, as we frequently find, I have invariably extracted it. Much good may be realized by keeping the teeth separated, for when there is a predisposition to decay, contact hastens the process. Besides, when well separated, the teeth can be kept smooth and polished. Polished steel constantly exposed to friction does not oxidate; so of the teeth, they being free from all extraneous substances, are less likely to be affected by the impurities of the stomach and mouth.

The usual aids employed to ensure such results are both so simple and so cheap as to be within the reach of all. A good brush, of moderate stiffness, should be used in the morning and in the *evening*, before retiring to bed. A tooth-pick, made of a common quill, should be the *vade mecum* of every person, to be used after every meal. And at least once a week a powder, such as every dentist will approve, should be applied with pure water, as cold as may be pleasant in the application.

Physicians are not sufficiently careful in giving medicine, which, though very proper perhaps for the case in view, may be very deleterious to the teeth. This may be and should be avoided by instruction to the patient in regard to the mode of taking it. Acids should be avoided as much as possible, particularly those of the stomach. Food that does not digest easily should be declined.

In speaking of the growth and necessary care of the teeth, we naturally come to the consideration of the diseases to which they are liable, whether caused by constitutional debility, hereditary bias, or by neglect. We have already noticed many preventives to disease, and some remedies, and shall have occasion to suggest others as we proceed in the examination of our subject.

That most of the diseases of the teeth are hereditary may be inferred from the fact that children generally resemble their parents in the development of these important instruments. What neglect has made *hereditary* should be repaired by extraordinary carefulness.

Diseases of the teeth may be classed under two heads, viz., *external* and *internal*, having reference to causes which produce them. The former are quite common. The latter seldom occur. The larger number are mostly within our control to prevent by *care* and *cleanliness*. The external gangrene, or decay, generally appears between the teeth, particularly the bicuspid (or small double teeth) and the frontal incisors. We next discover indications of decay in the small depressions of the grinding surfaces of the molar teeth, at the junction where the enamel unites. The points of decay are where the brush seldom reaches, and we may thus infer the chief cause to be want of cleanliness or want of friction.

The vitiated state of the *saliva* and the lodgment of matter, which soon becomes corrupt, are prolific sources of external gangrene.

When we see that tin, lead, copper and silver corrode in the mouth, and the purest ivory is subject to decay, or softening—that gold itself, powerfully as it resists the action of the strongest acids, often becomes tarnished, can we for a moment suppose or doubt the great destructive agency of the saliva in certain cases on the teeth? This acrid condition of the saliva arises from a variety of causes. Corrupted matter which has been permitted to accumulate upon and between the teeth, all decayed teeth and roots that are dead, are powerful causes in producing diseases. Added to these may be enumerated the impurities of the stomach, overloaded and overtaken with a variety of condiments that would give dyspepsia to an ostrich. Any of these causes, separately, are offensive, but when combined they are doubly so, and withal very destructive.

Internal caries appear in the bony portion of the tooth, between the enamel and lining membrane—generally nearer the former than the latter. Any inflammation of the teeth at this time is usually accompanied by pain on the application of any cold or hot substances. We may observe a dark spot on the surface of the tooth, caused by the transmission of light from the gangrenous bony portion through the semi-transparent enamel. The body of the tooth is the portion most liable to, if not the only portion affected by, internal caries. Its opening externally is generally effected by the action of mastication, or by mechanical causes, the external texture becoming brittle. Here, now, exciting causes take place from without, and the disease hastens rapidly to its final issue, viz., the destruction of the organ. Of the cause of this form of disease I have but little to say. It arises from some constitutional defect, or from whatever has a tendency to produce inflammation in other parts of the system, the action being modified by the peculiar structure of these organs.

As to the vascularity and sensibility of the teeth I need say but little. All practical dentists agree that the teeth are organized bodies, differing from the other bones only in that beautiful covering of enamel, which is necessary to the protection of the bony substance itself. Whoever is disposed to doubt the organization, or vitality of the teeth, has only to visit the dentist, and submit to the experiment of removing the decayed portion, and by coming to the sound to notice the difference to the touch, to be convinced that they are linked to the laws of vitality which pervade the whole human system.

The *toothache* is proverbially the most painful affection to which the human system is liable, and when we consider that most of this suffering is brought on by neglect and ignorance, we are at a loss how to account for such an obvious want of wisdom.

In all dense structures, such as the ligaments, cartilages, bones, &c., whenever connected with inflammation, the pain is very severe. The teeth, for example, being unyielding, any cause of irritation leads to an undue flow of blood to the parts affected, thus producing pain. Gangrene is not always the cause of the toothache, though it may be so considered generally. It exposes the bone of the tooth to other exciting causes, such as heat, cold, sudden and severe changes of temperature, mechanical injuries, lifting of heavy weights, biting threads, cracking nuts, &c. &c.

Believing that the toothache is usually caused by an irritated state of the nerve, either with or without an inflammation of the lining membrane, my usual course is to advise the removal of the exciting cause by reducing the inflammation, thus quieting the nerve.

If this pain appears in the front teeth every possible means should be resorted to, within the bounds of prudence, to allay the inflammation, but without extracting the offending member. If, however, the tooth be a back one, extraction is the surest remedy. I am *entirely* opposed to retaining dead teeth, old stumps, or roots, under such circumstances. There may be possible exceptions, but very rarely indeed.

A thousand remedies, in all shapes and under ten thousand authorities, are constantly brought to our notice by the public prints, and by the good and kind old nurse. Some succeed, and *some do not succeed*. It is found that many of the astringents produce good effect for the time being, such as the extract of galls and chloroform, creosote, &c. I do not, however, often prescribe the latter.

Other modes of treatment have been adopted with good results. I will mention one. Take arsenious acid and *sulph. morphia* in proportions of two parts of the former to eight of the latter. Immerse the

lint in the oil of cloves, and then add the morphine and arsenic. Place this in the cavity of the tooth, after wiping it out perfectly dry, carefully cover it with a pellet of cotton and wax it over, to prevent the moisture of the mouth from reaching the composition thus secured; place a small ring of rubber, cut from a tube, over the crown of the tooth. One application should be sufficient. It may be remarked, that before the application is made, as much of the decayed portion should be removed as possible, so that the remedy may be brought in contact with the membrane or nerve. At the end of twenty-four hours let the cavity be nicely cleansed, then with a delicate instrument annealed, except the direct *point*, which should be of cutting temper, remove all particles from the cavity. Much depends upon the instrument employed, not only in preparing the cavity for introducing the gold, but in packing it, that inflammation may not ensue. The patient should be cautioned against taking very hot or cold drinks for some days. I highly approve the manner of extirpating the nerve at once, as recommended by Drs. E. J. Dunning and J. H. Foster, of New York; but when it is difficult to persuade patients to consent to such an operation, the course which I have just given may be safely pursued.

This course is to be pursued with the teeth which we wish to preserve by filling, and, of course, before we proceed to fill such, we must wait for the reduction of the inflammation.

The treatment of gangrene requires, 1st—That we should get the mouth and gums into a healthy state by removing all foreign matter from the teeth and gums. 2d—To remove all dead teeth that are useless, and decaying roots, and every particle of tartar should be carefully removed from teeth, for otherwise the gums will recede from the neck of each tooth and be likely to produce inflammation. Sometimes it is well to bleed the gums. 3d—To pay strict attention to the general health of the system.

I now come to the most important branch of our profession, which not only involves *judgment*, but mechanical skill—that of repairing or *filling teeth*. It requires much study in order to do justice to this department. We are compelled to do most of our work under difficulties; to consult convenience, use, pride, prejudice, fashion and beauty. It is often expected of us to accomplish ends without any reasonable degree of common sense in the application of means.

We are required to do *thorough work*, but we must do it without giving pain; without causing disagreeable sensation by *filling*; without the savage operation of removing headless stumps or decayed shells;

without chiselling, probing, or scraping; without being *so very particular* about removing all the decayed matter, or separating defective teeth; or so fastidious as to require the use of the brush more than once a week, or requiring professional skill only when toothache drives to distraction, or toothless jaws cannot masticate to sustain life, or fashion is imperative in suffering by *art* what precaution might have preserved in the natural form, if seasonably exercised.

These habits of neglect, which seem to pervade all society, have arisen from various causes. The dentist is associated with ideas of pain, and his office is looked upon as the abode of suffering, rather than a place of resort to prevent it. The removal of a tooth is the subject of conversation for the whole family and sometimes the neighborhood. The tooth is preserved for exhibition, and the tale of its extraction is told and repeated with all the seriousness of manner that is manifested by a soldier in relating the scenes of a bloody battle. The father, the mother and all the children are crowding to see the tooth and hear the story. "How was it done? what did he use? did he cut the gum round the tooth with a jack-knife? How did you feel? and, would you have another taken out? What courage!"

Another has had his teeth filled or filed. *Ugh!* have you been to the dentist? I know how to pity you! 'Tis horrid! I have had enough of it! grit, grit, grit. Oh! *I can feel the horrid file now upon the edges of my tooth.'*

Now all this talk appears perfectly natural, and *so it is*; but nevertheless IT IS WRONG.

There is inevitably an aversion to dentistry established in the mind of a child and confirmed in the adult, by such language. Such an aversion leads to neglect, and parents cannot be too particular in what they say in regard to this matter before their children. Children are taught to fear before they have experience, for many are complimented for their *courage* for pulling a first tooth by the aid of a string, when its removal might be made without the child's knowing what had taken place. The child first doubts, then looks around, and then laughs. He is proud of his courage in doing nothing, and is ready to be brave again at so little expense.

If he be taught to believe that such is courage, and that such is *much to be borne*, that such is a trial of pain, he will be ready to scream at a bruise, or to breathe in agony at the prick of a pin. Similar remarks may be applied to the taking of medicine, and parents teach children to abhor its doses, and then wonder why they trouble them when they are sick, in refusing to swallow what they never tasted, and what their good requires.

It should be a part of education with the wise man, to pursue a discreet course with children in these things when young. To teach them what they are liable to in life, and to teach *duty*.

In respect to the teeth most people sadly neglect them. The farmer will clean his cattle, but neglect his teeth. He will thin the vegetables of his garden, but he never thinks of the crowded state of his own or his children's teeth. His wife will have the parlor clean and her children washed, but her teeth and those of her children *may rot*, for all she cares. The cook may be shocked at the sight of a speck, or of a hair in the soup or pudding dish, or express great mortification at seeing on the table a dirty knife, fork or plate, but she will use her *teeth* for months and years, instruments which she never can dispense with in her repasts, without the brush and without the slightest thought of cleaning. I say the *cook*, but the same may be said of the mistress or of her master. Persons of wealth may be reclining upon the richest ottomans and surrounded by elegant fabrics, and yet are unable to speak without opening upon you a *dirty* mouth.

I need not say that it is the duty of every person and every family either to be their own dentists or regularly to have the professional judgment of others. In the most common matters of life this course is adopted, and there is every reason why we should urge such a course upon all who would secure comfort, beauty and use, in the right care and preservation of such important instruments as the teeth. In regard to the necessary skill in properly filling or fitting teeth, I can say but little, except in relation to certain general principles, there being probably no two cases precisely alike, requiring the exercise of the judgment of the dentist in each particular case. A tooth *may not be worth preserving*; it should be removed and another substituted. If it has a sound root we have a foundation; if not, we are to make one. Half of a front tooth, well filled, is worth more than any *art* can furnish.

But I cannot understand even how some lovers of fashion, who spend much for show, and have much to spend, can ornament their persons with beads, bracelets, and golden chains, while their mouths exhibit toothless gums, to give contrast between beauty and defect!

To fill teeth perfectly and permanently it is essential that the diseased portion should be faithfully and entirely removed. This requires much care, great patience and perseverance. This is, in fact, the most important condition of success. It is the foundation of our work. Imperfectly done, and our work fails, as a building sinks if we rest our frames upon the pent up frost.

If you find a rotten plank in a ship, would you insert sound wood

in the centre of the decayed portion, or would you remove *all* the affected portion, adjusting new wood to new wood, rendering the part the same as new? The shipbuilder would smile at the utter simplicity of such a question. Thorough work requires more time of the operator, and more patience in the patient. After the cavity is properly formed for the preservation of the filling, and the diseased part *entirely* removed, the tooth should be filled with a substance which is not liable to be effected by heat or cold, moisture, or chemical action of any acrid or acid substances, and made *hard* and *durable*. For this object the best and only material is *gold*, which if properly packed and consolidated in the cavity, and sheltered, if possible, from wear and friction will preserve the teeth for years, and, in many cases, during a long life. In speaking of *gold* I speak from experience. I have known other substances to be used, but, in no case with such success as to warrant their repetition. I might mention tin, silver, cements, &c., &c., but, in respect to all such materials, I cannot sufficiently condemn them as gross impositions upon the public. It is possible that they may have been honestly recommended, but if so, I am compelled to add, ignorantly. The patient cannot be supposed to know respecting such matters, and is often influenced by the fact that tin is *well enough* because it costs less than gold.

The dentist has no excuse in using tin or compositions in preference to gold on account of price, any more than a physician has in prescribing *castor oil* instead of *prussic acid*, because its cost is less, without reference to cure. Allow me to say, that in filling teeth there is no medium between complete success and entire failure. Preparations must be complete. If *gold* is better for small cavities it is better for large ones; if a tooth is worth saving three years, it is worth our endeavors to save it six. What can be done with any other substance can be done with gold. What is worth doing at all is worth being done well. The dentist should be the judge, and the dentist should listen to no cheap method of *doing his duty*. Let him rather give his labor and materials without pecuniary consideration, than consent to do cheap, or what he considers imperfect work; for he neither does credit to himself, or gives satisfaction to his patient. In filling a tooth it is not merely sufficient that the gold should be brought up even with the surface of the enamel of the tooth, but it should be sufficiently hard and smooth near and around the edges of the enamel, as well as the centre of the cavity, so as to form an artificial enamel which will bear the test to which the true covering of the teeth is subjected. It must be made as firm and solid as gold itself. By thi

means we preclude the possibility of its becoming loose, and we entirely exclude all air and moisture from the bony substance.

A moment's reflection on the part of the patient, with respect to the mechanical operations upon the teeth, will convince them of the great importance of early attention to their condition, so that the dentist may not only give them perfect work, but *small bills*.

There is much speculation among patients with regard to the use of the file. It is a most important instrument to the dentist. It requires skill in the operator, but this forms no objection to the instrument itself. The same may be said of any other instrument, or of any other thing. A bad instrument may do injury in skilful hands, and a good one mischief in the hands of a tinker. *The file is a good instrument, if the operator knows not only how but when to use it.* Some dentists prefer separating the teeth with pine plugs, India rubber. These are well enough in certain cases, but in most the file is the best, because it is the surest. If the teeth are much diseased and the enamel broken, it would be useless to separate them with rubber, filling them and leaving the edges thin and ragged. The file makes thorough and even work in such cases. It is as important that the edges of the enamel be *strong* and healthy as the internal part of the cavity, otherwise the filling will leak and turn a blue color around the gold. If teeth are very slightly decayed, other means may be used, such as the use of pine, rubber, &c. Though I so strongly urge the use of the file, I would not advise its use in separating sound teeth because they are in a crowded state, for we destroy a portion of its natural covering without a prospect of doing any material good. I should, in this case prefer removing a back tooth, which in a short time would give room and accomplish all we might desire. A chisel may be used with advantage in some cases better than the file, particularly in back teeth. There is no doubt but many teeth are badly filed, and as badly filled, but such facts do not aid us in deciding upon the proper course to be pursued. If the file be used, judgment should be exercised in preserving shape, and other instruments should follow in rendering every edge as smooth as possible.

In our profession, as in all others, the only conditions of success are judgment, skill, and integrity.

Ten Hour System.—We shall soon hear of Dentists striking for the ten hour system. At the South, they have begun to employ dentists to extract the teeth of their slaves *by the day*. Dr. S. Ball, of Marion, N. C., extracted three hundred teeth in one day, recently.

CALL FOR A DENTAL CONVENTION.

The undersigned, under the conviction that the profession of dentistry in the United States demands an organization of its cultivators and practitioners, adjusted in system, measures and spirit to the present state of the science and practice, respectfully invite the dentists throughout the Union, who concur with them in this belief, to meet in Convention, at the City of Philadelphia, on Thursday, the 2d day of August, 1855, at ten o'clock, A. M., for mutual consultation and deliberation upon the measures that may best promote harmony and efficiency of effort in the advancement of the common interest.

The changes which time has effected in the state of the profession since the existing associations were organized; the elevated standing which it has taken among the sister branches of remedial art; the vast improvement in its educational methods; the great numerical increase of practitioners, and, especially, the enlarged liberality of professional sentiment which has grown with its growth, all, as with one voice, call upon us to institute such a system of fraternal relations, and provide such instrumentalities as shall meet the wants of our condition.

No subsisting organization embraces a tythe of the great body of American dentists. Our proposition is, therefore, made to our brethren every where, to meet in the spirit of professional brotherhood, and organize such an association as shall be best fitted to satisfy the requirements of the fraternity, and give the best direction to its efforts for advancement in all usefulness and honor.

The Local Committee of Arrangement, whose names are subjoined, will charge themselves with the duty of providing the necessary accommodations for the Convention.

The invitation is to the dentists of the whole country, and they are requested, whether specially addressed, or by accident overlooked, to favor the Committee with their several apprehensions of the movement, and their wishes and purposes in reference to it.

Elisha Townsend, J. Gilliams, David W. Hogue, D. B. Whipple, H. S. Burr, J. DeHaven White, A. H. Briscoe, Jas. S. Gilliams, James H. Briscoe, S. Dillingham, Jos. M'Ilhenney & Son, C. Newlin Pierce, John H. Githens, Wm. H. Clark, S. L. Mintzer, Charles Townsend, jr., Daniel Neall, R. Arthur, Jas. M. Harris, Henry Garrett, Chas. A. DuBouchet, J. F. B. Flagg, Ely Parry, T. L. Buckingham, A. R. Johnson, Edward Townsend, Wm. W. Fouché, Henry Townsend, Jesse C. Green, J. R. M'Curdy, J. H. M'Quillen, C. B. Foster, John Waylan, U. B. Kirk, S. S. White, David Roberts, H. F. Reinstein, F. Coar, Henry Avery, Jethro J. Griffith, Samuel Marshall, John White, Louis Jack, C. S. Beck, Charles M. Slocum, S. I. Thatcher, Wm. Gorges, John M'Calla, James Fleming, J. W. Van Oster, T. W. Walker, F. M. Dixon, Henry S. Porter, E. W. Haines, C. Moor, Samuel Welchens, Spencer Roberts, A. Homer Trego, Wm. H. Thompson.

Local Committee of Arrangement.—Elisha Townsend, Robert Arthur, W. W. Fouché, H. S. Burr.

THE

DENTAL NEWS LETTER:

A QUARTERLY PUBLICATION,

DEVOTED TO THE

INTERESTS OF THE DENTAL PROFESSION.

EDITED BY

J. D. WHITE, D. D. S., M. D. AND J. R. McCURDY, D. D. S.

VOLUME IX.

JONES, WHITE & M'CURDY,

PUBLISHERS AND PROPRIETORS,

No. 116 ARCH STREET, PHILADELPHIA; No. 263 BROADWAY, NEW YORK
No. 31 TREMONT ROW, BOSTON.

INDEX

TO THE

NINTH VOLUME OF THE DENTAL NEWS LETTER.

Proceedings of the American Society of Dental Surgeons, - - -	1
Report of the Proceedings of the American Dental Convention, - - -	2
Dental Hygiene, by JAS. E. GARRETSON, - - -	24
On the use of Amalgam for Filling Teeth, by ELISHA TOWNSEND, - - -	35
The Ether Question, by JAS. E. GARRETSON, - - -	44
Springing of Plates, by H. S. CHASE, M. D., - - -	47
Management of Light in the Performance of Dental operations, by J. H. McQUILLEN, - - -	49
Locke's Casting Apparatus, by JAS. LOCKE, - - -	52
Adjusting Lower Plates, with Remarks by Editor, - - -	55
Case of Chorea Cured by the Extraction of Eight Teeth, by Dr. T. J. VILLARD, - - -	56
Extraction under the Influence of Ether in a case of Disease of the Heart, by D. S. HUTCHISON, D. D. S., - - -	57
Editorial—American Dental Convention, - - -	58
Not Professional but Somewhat Personal, - - -	59
Sixteenth Annual Announcement and Catalogue of the Baltimore College of Dental Surgery, - - -	60
Dr. Townsend's Lithograph—Condensation of Gold in Plugging—Dental Practice, - - -	60
Obituary, John Wesley Shepherd, - - -	61
Obituary, Dr. J. M. Peak, - - -	62
Review—Diseases of the Human Teeth, etc., - - -	62
Items—Peculiar Effect of Chloroform—Cancerum Oris, Treated by the Application of Nitric Acid—Anodyne Cement for Rendering Teeth Insensible to Pain, - - -	63
Hemorrhage from Leech Bites—A Right Smart Yankee—New Astringent in Local Hemorrhage—Gambling to the Teeth, - - -	64
On the Parisian Dental Exhibition, by an EYE WITNESS, - - -	65
An Interesting Case, by S. WALTON, D. D. S., - - -	71
On Getting Up Dies—On Springing of Plates—and on Ether, by B. S. LYMAN, - - -	72
Plugging Frail Teeth—Unfortunate Result, by B. N. DURELL, - - -	75
Block Tin for Soldering Silver, by J. K. RICKEY, - - -	76
Constructing Lower Plates, by W. H. GODDARD, M. D., D. D. S., - - -	77
Diverted or Irregular Teeth, by JAS. BRYSON, with remarks by Editor, - - -	78
Gutta Percha, by N. B. SLAYTON, - - -	79
Transactions of the Pennsylvania Association of Dental Surgeons, - - -	81
Amalgam for Plugging Teeth, by J. D. WHITE, - - -	92
A New Method of Turning the Plate over the Edges of the Gums of Artificial Teeth, by W. C. KELLUM, - - -	94
Springing Plates, by F., - - -	96
Extracts from an Introductory Lecture, by Professor WHITE, - - -	97
Temporary Filling, by A. B. WILLIAMS, - - -	98
Combination Soldering Lamp, by T. J. HASKELL, - - -	99
Fomentations and Poultices, - - -	99
Editorial—Dynamometer, - - -	100
Obituary, - - -	102
Local Anaesthesia, - - -	103
Crystallized Gold, - - -	104
Gutta Percha—Moveable or Shifting Plane for Impression Cups, - - -	105
Dr. S. T. Beale—Parisian Exhibition, - - -	106
Review—Principles and Practice of Dental Surgery, by C. A. HARRIS, M. D., D. D. S., - - -	107
A Manual of Dental Economy, etc., by CHAS. S. ROWELL, - - -	107
Extracts from the Dental Periodicals, - - -	108
Selections and Abstracts from the Medical Journals, - - -	122
Puns for Dentists, - - -	134
Crystallized Gold, by A. J. WATTS & Co., - - -	135
Drying Cavities Preparatory to Filling, - - -	139
Extracts from the Records of the Boston Society for Medical Observation, with Remarks by Editor, - - -	140

Roman Dentists, - - - - -	142
A Case of Salivary Fistula, - - - - -	143
Painless Tooth Extraction without Chloroform, - - - - -	144
Death from Chloroform, - - - - -	144
Marriage of a Dentist, - - - - -	144
Valedictory, by Professor FLAGG, - - - - -	145
Dental Coalescence, by J. J. PATRICK, - - - - -	153
Material used for Filling Teeth, by F. Y. CLARK, - - - - -	156
Dentistry in Germany, by F. COAR, D. D. S., - - - - -	160
The Ether Question, by JAS. E. GARRETSON, - - - - -	162
Sponge Gold, by J. H. McQUILLEN, - - - - -	166
Obituary, Dr. D. Harrington, - - - - -	169
Experience in Amalgams, - - - - -	172
On the importance of Repeated Examinations of the Teeth, with Remarks by Editor, - - - - -	174
Old Patent Formula for Toothache Drops, - - - - -	176
On the Working of Steel, by W. S. HOW, D. D. S., - - - - -	177
Irregularities of the Teeth, by J. D. WHITE, - - - - -	182
Meeting of the Alumni of the Philadelphia Dental College, - - - - -	185
Reproduction of the Enamel, by W. M. MORGAN, - - - - -	186
Soft Food, by J. D. W., - - - - -	186
Aluminium, by J. R. McCURDY, - - - - -	187
Editorial—Condensation of Gold, - - - - -	193
Dr. S. L. Mintzer—Continuous Linings, - - - - -	195
Patent Improved Alcohol Blowpipe, - - - - -	195
Annual Commencement of the Baltimore and Ohio Dental College, - - - - -	196
Local Anæsthesia—Dental Associations—Enlargement—Papers Received, - - - - -	197
Commencement of Philadelphia College of Dentistry, - - - - -	198
Cobalt and Nickel, - - - - -	199
Extracts from the Dental Periodicals, - - - - -	200
Selections and Abstracts from the Medical Journals, by S. S. WHITE, D. D. S., - - - - -	217
An Essay—On the Sensibility of Dentine and its Treatment, by J. D. WHITE, - - - - -	225
An Improved Method of using Gold Foil, by Prof. ARTHUR, - - - - -	229
On Lining Teeth, by J. F. WILSON, - - - - -	237
Brief Extracts from the Proceedings of the Pennsylvania Association of Dental Surgeons, - - - - -	238
Adjusting Lower Plates, by M. B. PATTERSON, - - - - -	242
Risks in the use of Cobalt, by J. W., with Remarks by Editor, - - - - -	244
Selections from an unpublished work, entitled "Review of Dental Studies"—Tumefaction of the Salivary Ducts—Offensiveness of the Breath, - - - - -	246
Elongation of the Uvula, - - - - -	247
Diagnosing Tumors of the Antrum—Metastasis, - - - - -	248
Dental Hygiene, - - - - -	249
Catamenia Temporarily Interrupted in its Course by the Extraction of the Teeth, by JOS. WOODWARD, - - - - -	252
Local Anæsthesia, by I. B. BRANCH, - - - - -	254
Western Dental Society, - - - - -	255
Fracture of the Inferior Maxillary, by A. R. SHAW, - - - - -	256
Directions for using Slayton's Colored Gutta Percha Base, - - - - -	257
The Anterior Permanent Molars, by J. H. McQUILLEN, - - - - -	259
Facial Neuralgia, by R. W. HENDERSON, dentist, - - - - -	263
Facial Fistula, by J. D. WHITE, - - - - -	268
The Approaching Meeting of the Dental Convention, - - - - -	300
Editorial—Condensation of Gold, - - - - -	271
To Subscribers, - - - - -	272
Permanent Enlargement, - - - - -	273
Pennsylvania Association of Dental Surgeons, - - - - -	273
Accident from a Soldering Lamp, - - - - -	274
American Dental Convention, - - - - -	274
An Introductory on Dental Surgery, etc., - - - - -	275
Baltimore College of Dental Surgery—Helm's Ratchet Lathe—Dental Practice for Sale—Twelfth Annual Announcement of the Ohio College of Dental Surgery—See Cover, - - - - -	275
Extracts from the Dental Periodicals, - - - - -	276
Aluminium, - - - - -	283
Selections and Abstracts from Medicinal Journals, - - - - -	284

THE DENTAL NEWS LETTER.

VOL .IX.

PHILADELPHIA, OCTOBER, 1855.

No. 1.

PROCEEDINGS OF THE AMERICAN SOCIETY OF DENTAL SURGEONS.

Pursuant to a resolution of the meeting held at Cincinnati, May 8th, 1855, the Society met in Philadelphia, August 1st, 1855, at the rooms of the Philadelphia Dental College.

Members present—Drs. Townsend, Bonsall, Arthur, Dunning, D. R. Parmly, John Allen, S. P. Miller, Goddard, J. S. Clark, and Cone.

The President, Dr. Townsend, in the Chair, and Dr. Bonsall, Sec'y.

The minutes of the previous meeting were read and approved.

The object of the meeting—"to take into consideration the general subject of Associations and the dissolution of this Society"—now came up for discussion, and was spoken to by Drs. Arthur, Dunning, Townsend, Goddard, Clark, Miller and Cone.

Dr. Goddard moved a reference of the subject to a committee, which, after some further discussion, was adopted and a committee appointed, with instructions to report at 5 o'clock, P. M.

The meeting then adjourned until 4½ o'clock.

At 4½ o'clock the Society again convened and heard the following report :

Your committee, to whom was referred the subject of the propriety of dissolving this Association, after mature deliberation, think it inexpedient to dissolve the Society at present, and ask of the Society leave to report at the next annual meeting, in 1856.

E. TOWNSEND,	} Committee.
E. J. DUNNING,	
C. O. CONE,	
R. ARTHUR,	
JNO. S. CLARK,	

After considerable discussion on the report of the committee, the report was accepted and leave granted.

On motion of Dr. Goddard, it was

Resolved, That the above committee be, and they are hereby instructed, in case they consider it necessary for the further advancement

of the Society, so to amend the Constitution and By-Laws of the Society as to alter the sum to be paid for initiation and annual dues, as will best comport with the welfare of this Association, and do all other things necessary in the premises, so as to perpetuate and place this Society upon a permanent basis, and such as will suit the views of the profession generally.

The above resolution was carried almost unanimously, after which, in consideration of the Society having already held two meetings during the present year, the annual meeting for the present year was dispensed with, and the Society decided that when they adjourned it should be to meet at the Astor House, in the city of New York, on the first Tuesday of August, 1856, at 10 o'clock, A. M.

Adjourned, *sine die*.

J. R. M'C.

Report of the organization and proceedings of the first meeting of the "American Dental Convention," held in Philadelphia on the second, third and fourth days of August, 1856.

In pursuance of a call signed by some sixty of the Dentists of Philadelphia and adjacent places, and published, by request, in the *Dental News Letter* for July, 1855, a meeting of a large number of the profession was held as above.

As it may be of interest to many, we give the names, so far as we were able to obtain them, of those present at the sittings of the Convention, some eighty of whom signed the articles of the Association.

Drs. R. Arthur, Elisha Townsend, J. D. White, D. Neall, J. Gilliams, H. S. Burr, J. F. B. Flagg, S. Dillingham, J. H. McQuillen, Edward Townsend, Jos. E. Parker, T. L. Buckingham, C. B. Foster, D. B. Whipple, S. L. Mintzer, E. M. Neall, J. S. Gilliams, J. M. Harris, A. R. Johnson, D. Roberts, J. H. Githens, S. Roberts, C. A. Du Bouchet, C. N. Pierce, J. S. O'Neil, S. Walton, A. M. Asay, S. S. White, W. Calvert, J. M. Barstow, W. R. White, R. A. Porter, W. H. Clark, J. R. McCurdy, J. J. Griffith, L. Llamozas, A. L. Hestor, T. G. Armstrong, J. Hayhurst, of Philadelphia; Drs. E. Parry, J. McCalla, S. Welchens, J. Waylan, of Lancaster, Pa.; Dr. Jas. Fleming, of Harrisburg, Pa.; Drs. Jesse C. Green, E. P. Worrall, C. M. Valentine, Westchester, Pa.; Dr. Jas. Locke, Williamsport, Pa.; Dr. H. H. Martin, Jersey Shore, Pa.; Dr. Chas. Moore, Pottstown, Pa.; Dr. D. S. Hutchinson, Hollidaysburg, Pa.; Drs. J. B. Rich, D. I. Parmly, E. J. Dunning, G. E. Hawes, John Allen, C. W. Ballar, W. Crowell, New York city; Dr. Fenn, Rochester, N. Y.; Dr. V. H. Dwinelle, Cazenovia, N. Y.; E. D. Fuller, Peekskill, W. A. Pa.

mer, Poughkeepsie, N. Y. ; Drs. S. P. Miller and H. S. Bishop, Worcester, Mass. ; Dr. F. Searle, Springfield, Mass. ; Drs. Bonsall, Cameron and Hunter, Cincinnati, Ohio ; Dr. Young, Zanesville, Ohio ; Dr. C. O. Cone, Baltimore, Md. ; Dr. W. H. Goddard, Louisville, Ky. ; Dr. John S. Clark, New Orleans, La. ; Dr. B. A. Kennedy, Wilmington, N. C. ; Dr. P. Babcock, Raleigh, N. C. ; Drs. Munson and McFarlan, Washington, D. C. ; Dr. V. Shinn, Georgetown, D. C. ; Drs. Kingsbury and Brown, of Mt. Holly, Marshall, of Camden, Harbert, of Salem, and Whitaker, of Bridgeton, N. J. ; Dr. W. Potter, Norwich, Connecticut.

The meeting came to order at 10 o'clock, A. M., by the appointment of a temporary Chairman and Secretary, when, on motion of Dr. Elisha Townsend, a committee was appointed to nominate officers for a permanent organization.

Committee.—Drs. J. McCalla, of Pa. ; G. E. Hawes, N. Y. ; S. P. Miller, Mass. ; Potter, Conn. ; Bonsall, Ohio ; Munson, D. C. ; Brown, N. J. ; Goddard, Ky. ; Garrett, Del. ; C. O. Cone, Md. ; and, on motion of the chairman, Dr. J. S. Clark, of La., was added to the committee.

The committee reported the names of Dr. J. B. Rich, of New York city, for President, and Dr. Chas. Bonsall, of Cincinnati, for Recording Secretary, which report was unanimously adopted, and the gentlemen took their seats.

On motion of Dr. J. S. Clark, a committee of one from each State was appointed to report a plan, with articles of association, for the action of the convention, and the following gentlemen were appointed as that committee:—Drs. J. S. Clark, of La. ; Munson, D. C. ; Garrett, Del. ; Goddard, Ky. ; Cameron, Ohio ; Marshall, N. J. ; Potter, Conn. ; Miller, Mass. ; Hawes, N. Y., and Elisha Townsend, Pa.

After a short delay the committee reported the following preamble and "articles of association," which, on motion of Dr. Dwinelle, were taken up for consideration by articles, and after being very slightly amended were adopted, as follows :*

"At a national convention of Dentists, assembled in Philadelphia on the 2d day of August, 1855, for the purpose of consultation upon the measures best adapted to advance the science, and the common interests and honor of the profession, the following plan of organization was adopted :

* The title in the report was American Dental "Congress," which subsequently, on motion of Dr. Arthur, and after some discussion, was changed to Convention.

ART. I. The association shall be called the American Dental Convention.

ART. II. The association is intended to promote professional and personal intercourse among those who are engaged in the cultivation and practice of dentistry throughout the world; to advance the cause of dental education, and systematize and strengthen the exertions of its friends, and, by a mutual interchange of opinions and experience, to advance the knowledge and liberalize the relations of the members.

ART. III. The convention shall consist of the members of the convention who shall sign these articles of association, and of such other practitioners of dentistry and auxiliary branches of science as shall hereafter be elected to membership, and in like manner sign these articles.

ART. IV. Candidates for membership shall be nominated by a member of this convention, at any of its meetings, and every such candidate as shall receive a majority of the votes cast upon the question of his admission, shall be declared duly elected.

ART. V. The stated meetings of this convention shall be held once every year, on such day and at such place as the convention shall, at each session, appoint for the next meeting.

ART. VI. The officers of this convention shall be a President, Vice President, Recording Secretary and Corresponding Secretary, all of whom shall be elected to serve for the ensuing year, on the first day of the annual session, or on such other day of the session as may be appointed by the convention. And the officers incumbent shall hold their offices and exercise the functions thereof until their several successors shall be elected and installed.

ART. VII. The Vice President shall, in the absence of the President, or in the event of his death or resignation, perform all the duties of the President, and in the absence, or death, or resignation of both President and Vice President, the Corresponding Secretary shall serve as President, *pro tempore*.

ART. VIII. All elections shall be determined by a majority of the votes cast by the members present, and the manner of voting shall be either *viva voce* or by ballot, as the convention shall at the time determine.

ART. IX. A committee to prepare business for the session shall be appointed by the President elected for the year then expiring, which committee shall consist of one member from each State represented.

ART. X. The Business Committee, provided for in Art. IX., shall be the standing committee of reference for all essays and papers presented.

posed to be read by members before the convention, and shall report their number, subject and length to the President, with their advice as to the order most expedient to be observed in presenting them to the convention, and the President shall thereupon appoint, at his discretion, the time at which they shall be read: *Provided*, that it shall always be competent to the convention to assign, by resolution, any other time for the reading of such papers, or to postpone such reading indefinitely. And the convention may also, by resolution, order the reading of any paper or communication at such time as it shall deem expedient.

ART. XI. All papers read before the convention by the members shall be the property, and at the disposal of their authors, unless otherwise disposed of by resolution of the convention with the consent of the authors.

ART. XII. The President may appoint any member or members of the convention to read a paper or papers upon any professional subject, at any subsequent session.

ART. XIII. The convention shall order and determine all matters not herein provided for, by resolution.

ART. XIV. The funds of the convention shall be held and appropriated by the Recording Secretary to the discharge of its expenses, and he shall report his accounts to the convention on the last day of the session, and shall assess a *pro rata* tax upon the members present to defray the same.

ART. XV. The President shall, on the first day of the session held at the close of his term of office, organize the session, direct the reading of the minutes of the last session, and deliver an address before the convention upon such subjects as he may deem most useful and important for their consideration.

ART. XVI. These articles may be altered and amended in whole or in part at any session of the convention, by a majority of the votes of the members present."

After the adoption of the articles of association, on motion of Dr. J. Parry, the convention resolved itself into the "American Dental Convention," and the former officers were re-elected *viva voce*, and Dr. J. H. McQuillen, of Philadelphia, elected Corresponding Secretary, by ballot, and Dr. J. S. Clark, of Louisiana, Vice President.

Adjourned to 4 o'clock, P. M.

AFTERNOON SESSION.

Convention met at 4 o'clock, according to adjournment.

The Chair stated that it had been proposed to occupy the present session in professional discussion.

Dr. Townsend made some remarks on the subject of the preparation of gold for filling teeth, and gave some reminiscences and modes of practice, such as rolling gold into pellets of different sizes; uses pellets and folds, and strips of numbers 10 and 30, the thinner the walls and larger the cavity the thinner the number of the gold. Had been told of the form of cylinders, but rather adhered to the use of pellets and folds; alluded to Dr. J. S. Clark as using the cylinders.

Dr. J. S. Clark (of New Orleans) described his method of introducing gold in the shape of cylinders, and manifested great earnestness and fervency on the subject. Said it was one of the few things that, although its claims rested on purely scientific principles, and offered a beautiful theory, it was so much more interesting and beautiful in its practical illustration that, one practical test, was worth all the description that could be given.

The old and familiar experiment of producing cohesion, by placing two plane surfaces in contact and forcing out the air, as in the experiment with two leaden bullets, (with planes cut on each and forced together,) will explain the principle of cylinder filling. It is nothing more nor less than taking advantage of this principle in forming a filling from gold foil.

The foil is carefully rolled into cylinders, as a bolt of cloth is rolled, and of a length to suit the depth of cavity, and intended to be a little longer than the cavity is deep. They are rolled of all sizes, from a full sheet down to the size of cambric needle wire. Some are made conical in shape, but most are plain, straight cylinders. Some are rolled very lightly, others quite hard. They are formed by folding the sheet, or part of a sheet of foil, into strips, as *wide* as the cylinder is to be *long*. This strip is then rolled on the point of a very fine (five-sided instrument, and the strip cut off when the desired size is attained.

The application is to place soft (or lightly rolled) ones in the cavity endwise, being careful that each cylinder reaches the bottom of the cavity and protrudes a little outside the orifice. When the cavity is apparently full, a round instrument is passed down between them, and another cylinder (a little harder rolled) is forced up. This is repeated decreasing in size of instrument and cylinder, (the latter of increased hardness,) until no more can be introduced. At this point the filling will be found to be one combined mass of gold, which can be cut and filed into shape, and polished as perfectly as any piece of molten gold for the cylinders being, when introduced, all ventilated, or open at the end, and of plane surfaces in contact, by this manipulation the air has been forced out, and cohesion taken place according to the natural laws of cohesion.

It is well known that all cavities are not of regular shaft-shape. All variations as to shape are easily filled in this way, by using cone-shaped cylinders, with the base of the cone in or out, as the shape may demand. A cavity with but two opposing walls, and they standing at nearly right-angles, can be filled by springing an arch from one wall to the other. Beside many other advantages, the operator will always be sure of finding the orifice or margin of gold perfect, as to fullness and adaptation.

I have used gold in this way almost exclusively for five years. Showed it at the time to Dr. Freidrichs and Dr. James S. Knapp, of New Orleans, who have adopted it fully, and of whose operations since, the profession have been pleased to speak in the highest terms, but not more than such operation will always deserve. Subsequently, I have shown it to several, who have adopted it; and among those who have tested it for three and four years are Dr. C. W. Spalding and Dr. H. J. B. McKellops, of St. Louis. Names are mentioned, that their operations may be noted as they come under the eye of the profession.

Dr. Townsend did not wish to occupy time, but would state that the greatest difficulty with him, was the preparation of a perfect cavity; and he was often compelled to say, after putting in a filling, "that would be a perfect filling if." Alluded to the difficulty of getting every thing into proper condition, and with proper finish.

Professor Arthur had listened with great interest to the remarks on this subject. The method described by Dr. Clark, he thought eminently fitted to accomplish a great object in filling teeth, the union between the material used for filling, and the periphery of the orifice of the cavity. He had always regarded this as one of the most important if not the most important feature of the whole operation. The proper preparation of gold for the purpose in question, had always been a subject of great interest to him, and he had for years past experimented a great deal in various ways, to reach the best method. The defects of gold foil, with all its great advantages, had always been a source of trouble to him, and he had been anxious to find some way of overcoming these defects. There was no question, in his estimation, that a great deal would be gained if the different portions of the gold placed in the cavity could be readily made to adhere together, and he had steadily looked forward toward this desideratum. Some years ago he had proposed to use heavy numbers of foil, cut into single strips, and condensed with fine-pointed instruments. In this way, by bringing great pressure upon a very small surface, the different parts were made to adhere; or, if no adhesion actually took place, one layer was forced into the other at so many points, that it simulated adhe-

sion. This Prof. A. at the time regarded an advance upon the ordinary method of using foil, and only abandoned it after having used it for more than a year, on account of the difficulty of getting suitable instruments made, as the necessary instruments being fine and hard were easily broken, and their frequent renewal involved so great a loss of time, that the advantage gained was not a compensation for it.

When crystallized gold was introduced, Prof. A. had taken hold of it with great avidity. It gave greater promise than any thing he had previously met with. He had used it almost exclusively for more than a year, and, after becoming accustomed to its use, found it of great service. He had undoubtedly found difficulties attending its use.

The President requested Prof. A. to state to the convention the nature of the difficulties he had encountered, in making use of crystallized gold.

Prof. A. was quite willing to state explicitly the nature of the difficulties referred to, but he did not wish to trespass. He would say, however, that he had found it necessary that the material should be kept perfectly dry—moisture, he had found, was fatal to its adhesion; and many cases occur where it is exceedingly difficult to exclude moisture entirely. A great difficulty which he had encountered was from the want of uniformity in the material itself. From the same manufacturers, so far as his experience in its use had gone, it was impossible to get two specimens precisely alike. At one time the article was all that could be desired, and the next lot, perhaps, would be greatly inferior. He had found, also, that it required a greater amount of time to make a reliable filling in many cases, with this material, than with gold foil, as commonly used. It could not be placed in a cavity in large quantities and condensed with large instruments, but it was necessary to use it in small portions and to condense it with very small instruments. But, in the face of these difficulties, Prof. A. had no hesitation in declaring that the results, in his own practice, fully compensated him for the labor he gave to it; and he had been quite willing to devote to it the necessary labor for the results he was able to obtain.

But, in making some experiments to ascertain the relative density between a filling made of gold foil and of crystallized gold, he was led to the discovery that gold foil could be used in precisely the same manner as crystallized gold. [Here Prof. A. described the method of using gold foil, an account of which has already appeared in the "News Letter."]

Dr. Neall remarked, that the cohesion of gold was no new doctrine

but he had not thoroughly comprehended Dr. Clark's method of filling a cavity with cylinders. He (Dr. N.) proposed to make each part of his filling cohere as he introduced it, and not depend upon one portion of the gold packing the other, as he implied must be the case, if cylinders were set up en masse in a cavity, and then compressed.

Interrupted by the President, who stated that remarks must not become discussional on personal methods, but that each, in speaking, should confine himself wholly to the explanation of his own method.

Dr. J. M. Harris gave his experience, and various methods of preparing gold for fillings.

Dr. Neall asked for explanation, how Dr. Clark would proceed in filling very angular cavities with cylinders.

Dr. Rich remarked, that his preceptor in this country, Dr. Park, taught him to prepare his gold in cylinders, and formed them by rolling the gold over a watch spring; he then went on to give the method of introducing the gold; described a plan of forming an open coil of gold, the interstices of which were filled with cylinders. He objected to the wedge-shaped instruments, and thought them entirely unsuitable; he used straight, thin points, flat but not wedge-shape. Alluded to crystal gold fillings of recent date as promising decided improvement in that direction, having tested it thoroughly, by working it in water, saliva, flour and other similar substances, yet without impairing its adhesiveness, or preventing its being formed into a solid plug.

Dr. Dwinelle remarked, that he considered gold foil one of the most valuable agents the profession ever had anything to do with. He did not wish to say any thing *against* foil, but to speak in favor of crystal gold. He alluded to his connexion with the introduction and improvement of crystal gold; he thought the ultimatum had been reached, and was fortified in his assertion by the severe tests it had been subjected to by himself and others. It had stood the test. He had failed in some cases of course, all of which, however, were to be attributed to imperfect manipulation. He considered that an established fact could never be gainsaid, however humble its author might be; a successful operation proves not only its own success, but that it is possible for every one to be equally successful. He believed that many important facts have been established in favor of crystal gold, and that unparalleled success had been gained by its use. He spoke of its superiority over foil in many cases, in that it was capable of being built up into independent forms, and its particles thoroughly integrated together into an absolutely solid mass, which would not absorb moisture, and whose specific gravity was equal to solid gold, as had been repeatedly proven by actual experiment. He referred to stoppings of crystal gold

which had been worn in the mouth for two years without change; alluded to decided improvements, which he said had been recently made by the manufacturer; and that an entire uniformity in quality could always be relied upon in the future. Its successful use required time, care and experience. Used soft paper in drying out the cavity. Would prefer annealing gold foil without permitting the flame to come in contact with the gold.

Dr. Kingsbury was gratified at having the pleasure of meeting the profession, as he was desirous of learning and imparting, if in his power. Had tried sponge gold in some cases; thought he had made very good fillings; but in the great majority of cases had been able to make better fillings with gold foil No. 4. Attributed the harshness of foil to friction between the leaves of the book. Had tried annealing on using the foil, and thought well of it. His confidence was greater in good gold foil than in sponge gold.

Dr. S. P. Miller commenced practice with the use of ribbons, folded with a thin spatula; had tried gold in all the various forms offered to the profession; did not condemn the form of cylinders, they being sometimes used, but did not find them equally applicable to differently shaped cavities as pellets. His want of universal success, claimed by others, may have been owing to the fact that he had not so perseveringly continued their use. Much depends on habit; has had the greatest success with pellets of different forms—round, oblong and flattened, with serrated instruments for packing, commencing to fill with pellets, and finishing with ribbons or small ropes. The *oblong* pellets take the place of cylinders, being more easily kept in place. The ribbons of various thicknesses and widths, cut in square blocks, is another excellent form for protecting the thin shell of a front tooth; is not confined to any one form for all cases, but uses flattened pellets—the round pellet slightly pinched between the thumb and finger—more than any other. His experience with sponge gold had been unfavorable; he had found it uneven in quality, and not to retain its color, owing to the retention of impurities in the process of its manufacture; but if the preparation has been so greatly improved as we have just been told, then some objections to its use have been removed. While he did not doubt what he had just heard about sponge fillings, yet, he must say, he had not been so fortunate as to produce the same wonderful results, and have the same success claimed for it, as those who had advocated it so strongly.

Dr. J. D. White humorously remarked that he supposed the cavity now all prepared and dry, ready for filling, and as sponge gold had been tested in so many ways, and with so many other substances, and

with so many results, he would suggest the addition of some "cod liver oil" as calculated to make it much better and sustain its reputation.*

Dr. J. F. B. Flagg had tried sponge gold, and his experience was adverse to it. The manufacturers, to judge from their advertisements, seem to expect from the dentist a term of probation in the use of a poor article, before they could trust them with the very superior article, of which we have just been informed. But the article had disappointed the profession, and he must term the course pursued by the manufacturers' humbug, if this new material is what was promised.† [Called to order by the chair.]

Dr. E. Parry gave his experience with foil, which had served his purpose satisfactorily; alluded to its occasional harshness, which he believed was caused by friction in transmission, and that it deteriorated by absorbing moisture, and was of the opinion that by annealing, its texture and ductility were restored.

On motion, the convention adjourned to meet the next morning at 9½ o'clock, A. M.

FRIDAY MORNING, August 3.

Association met at 9½ o'clock, President in the chair.

After the meeting had come to order, Dr. Arthur made a motion to amend the first article of the association, by inserting the word "Convention" instead of "Congress," and he was, on motion, allowed twenty minutes to give his reasons, which he proceeded to do. The debate was participated in by Drs. Townsend, Flagg, McQuillen, Kingsbury, Dwinelle and Munson, after which the amendment carried, almost unanimously.

Dr. Townsend then suggested, as a fit subject for one hour's discussion, the best method of keeping the mouth and cavity in the tooth perfectly dry during the operation of filling, and gave his method, which was by the use of paper.

Dr. Rich's method of keeping the cavity dry was by the use of paper.

*His views on sponge gold have already been given at large in the pages of the *News Letter*.

† PHILADELPHIA, Sept. 13, 1855.

DR. McCURDY—*Dear Sir*:—In an interview with you recently, I understood you that it was the desire of our friend Dr. Dwinelle, that I should withhold, or modify in some way, the expression made use of by me, in reference to *sponge gold*, at the late convention held in this city. As it affords me an opportunity of explanation, I will embrace it. If a true report is made of those proceedings, it will be seen that *two gentlemen* had preceded myself, and spoken "their fill" in praise of this new agent. In following, I was so unfortunate as to *prefix my fears* to the relation of *my* experience, and the moment I feared a "*humbug*" I was cut short by a head; fairly decapitated, and my speech, half made up, suffered to hang upon this coarse but very expressive word.

It seems to me that the friends of sponge gold must, at present, be held responsible for *any* meaning that may attach to that expression, and, as I have now consumed the space you say you can afford me in your present number, I suppose I must wait another three months, for a suitable opportunity to give my views.

Yours, &c.,

J. F. B. FLAGG.

He remarked that paper slightly sized will absorb very quickly, and ordinary tissue paper rubbed until the sizing is broken up, and then rolled into rope was a useful application. In the use of napkins, he folded and applied to the lower jaw to absorb the saliva from the ducts, and used them also in other positions; for the ducts of upper jaw used ordinary blotting paper, which he made to adhere to the mouths of the ducts; by such and similar appliances had been enabled to keep the mouth dry for an hour. The paper leaves me nothing to desire. I never have a case in which the water encroaches on me in three-quarters of an hour, I care not how wet the mouth may be.

The President stated that he would now adopt the rule of calling upon the members individually for their experience upon this subject.

Dr. J. M. Harris had used paper, had filled the opposite duct with a pledget of cotton, and used cotton dipped in fine plaster of Paris.

Dr. Ballard had used paper, as described by the President, but of a thicker character. It is known as French bibulous paper, and is manufactured in France and Switzerland for the purpose of protecting from moisture the watch movements, which are exported from those countries in immense numbers.

Dr. Dwinelle would endorse what the President had stated on this subject, and had followed the same mode of practice. Spoke of the absorption of the broken fibre of the paper by capillary attraction. Alluded to the leakage of serum through the tubuli, and referred to discoloration occurring behind the best of fillings, sometimes; queried whether it was occasioned by exudation of vitiated fluids from dentinal tubuli.

Dr. Clark was indebted to the journals for the suggestion of paper. Had used subsequently lithographic paper softened by rubbing; had found it very useful.

Dr. McQuillen, in the first years of his practice, used finely carded cotton, but, at the suggestion of Dr. Townsend, adopted tissue paper; has tried both thick and thin; for general purposes prefers the former, but in absorbing the moisture from the pulp cavity, employs the thin, which, when torn into narrow strips, parallel with the fibres, and rolled tightly, acquires a roughness and flexibility that admits of its being passed a considerable distance up the root; his attention was directed to this fact by Dr. D. Neall. To protect the tooth operated on, from the salivary and mucous secretions, placed strips of muslin (freed from sizing) between the cheek and gum; in addition, when operating on the lower teeth, enveloped the tongue with a small and soft napkin.

Dr. Flagg.—In regard to tissue paper and cotton, we must consider the principle upon which it acts. The sizing he thought very necessary

in absorption. Had used strips of fine cotton cambric, which, after washing and starching, he found would draw off the moisture in a very satisfactory manner.

Dr. S. P. Miller had used prepared flax, paper, also cotton, deprived of its oil by boiling in a solution of potash, for drying cavities.

Dr. Kingsbury had used tissue paper for about eight years, which was communicated to him by Dr. Townsend. Used napkins upon the inside and between the gum and cheek. Had found some difficulty in keeping the cavity dry when situated near the gum; had passed strips between the teeth, and used gum-elastic to keep off the edge of the gum from the tooth. Had thought paper, moistened and then dried, would absorb more rapidly.

Dr. Buckingham remarked that, in keeping the margin of gum away from the teeth, he had used soft wood; used paper and also cotton.

Dr. J. D. White stated that, in applying napkins, he had formed them by folding them around a watch spring, or a strip of sheet lead from two to three inches wide, so that when applied between the teeth or gum and cheek, they would retain the shape desired. Had invariably succeeded in keeping the mouth dry with a fixture of this kind; regretted he had not brought it with him to illustrate his method.

He had used bibulous paper in drying out the cavity, and would return his thanks to Dr. Ballard for the specimen sent him.

Dr. W. H. Clark had always used lint, and with satisfaction.

Dr. S. L. Mintzer used napkins and cotton, and strips of muslin; was in favor of the use of plaster of Paris. Had found the saliva pump, invented by Dr. Arthur, a very useful contrivance.

Dr. Fuller, in cavities in close approximation to the gum, had used cotton twine passed between the teeth and forced down between the edge of the gum and the tooth; had used napkins, much after the manner already described, rolled over watch spring, whale-bone, etc.

Dr. H. H. Martin used napkins, cotton, etc., and scraped the cavity just before the application of gold.

Dr. Kingsbury had used sponge about "the size of a piece of chalk."

Dr. Clark wished to say, in evidence of the benefit of the convention, that he had received one idea, which, although a small thing, he felt was worth a pilgrimage of two thousand miles. He was ignorant of the originator of it, but would like to see him and thank him for it.

It was the simple use of a dove-tailed wedge of soft, close-grained wood, passed between the teeth, pressing down the point of gum, (when filling approximal cavities,) arresting hemorrhage and enabling us to operate by sight in that part of the cavity, instead of on suspicion, as well as saving the patient much pain in filing, polishing, &c.

Dr. Townsend had been taught the use of napkins by Dr. Hudson, who was very particular in this matter, and who used them of a suitable size and character. The use of cotton he had abandoned, for the purpose of drying the cavity, but used it in wiping out the debris in the cavity after excavating. Used wedges of wood to press the gum away, but not to penetrate the gum.

Dr. S. P. Miller alluded to the secretions of the mouth in the treatment of approximal cavities, and the great necessity for keeping these surfaces free and clean. In excavating cavities below the margin of the gum, had used chloroform, morphia and tannin, applied on cotton, as astringents.

Dr. J. D. White, by request, described a little apparatus he used on his finger in keeping the tongue away, in filling lower cavities. He gave the idea by forming a piece of paper somewhat of the character of a ring, to go around the finger, from which a shaft extended parallel with the finger some one and a half inches, on the end of which a circular piece was attached about the size of a ten cent piece, at right angles with the shaft.

To an inquiry put by Dr. Clark, he explained the use he made of tin foil in forming wedges to press the gum away; had used cotton for the same purpose, forcing it down between the gum and tooth.

Dr. Townsend alluded to the difficulty in keeping the cavities dry on the anterior surfaces of the front teeth. In some cases had used caustics to produce a slough, then, by removing the gum, was enabled to get at the cavity, but always preferred a wedge where applicable.

Dr. J. M. Harris hoped the profession would make trial of the plaster of Paris, with a view of preventing the discoloration of teeth after having been filled. He was disposed to think favorably of it.

Dr. J. Fleming had used plaster on cotton, after the cavity was prepared, with a view of closing up the tubuli; wiped the cavity well with the cotton and plaster on the point of an excavator.

Dr. Clark had removed a filling that had been in nearly a score of years, and found, in the bottom of the cavity, dry plaster of Paris.

Dr. S. P. Miller hoped too much would not be left in the cavities at the expense of sponge gold or gold foil.

Dr. Kingsbury could not understand how plaster would answer the purpose, as the current through the tubuli is from the outside toward the centre.

Dr. Townsend wished to explain that, in putting in a wedge, "he cut off both ends of the wood."

On motion, a half hour was devoted to the hearing of cases.

Dr. Dwinelle had had a case which interested him, and which exhibited the ignorance of medical men on the subject of dentistry. Dr. Munson, of Washington, had extracted the teeth of a lady of Washington, and for whom he had inserted a full set of teeth. After wearing the plate a short time, she was annoyed by the appearance of a tumor on the roof of the mouth, for which she had been under medical treatment, and without benefit. The tumor was thought to be of a schirrhous character by her medical attendance. On examination, discovered an opening in the palatine arch, far back, about the size of the head of a pin, the inflammation involving the whole palatine arch. He made broad incisions crosswise, in the hope of finding the cause of all the trouble, when he discovered the point of a bright object, which, on further dissection, proved to be a tooth, and on applying the forceps, extracted an immense cuspidati tooth, which had been lying in an oblique direction, imbedded in the palatine arch and extending into the nasal process, the tooth perfect in form, but diseased with exostosis at the end of the fang.* Gave the particulars of a similar case which had been related to him by a friend.

Dr. Clark alluded to the case of a lady from Belleville, Ill., (age 44,) for whom he inserted a plate in 1840, and finding the plate subsequently thrown up from the gum, and a bright spot on the under side of that part that covered the apex of the palatine arch, found on examination a small cuspidati tooth protruding.

Dr. Searle exhibited a right upper lateral incisor, which he found in nearly an inverted position—the apex of the root lying between the roots of the front incisor and cuspidatus—the biting edge extending upward and backward above the junction of the maxillary and palate bones, the anterior plate of the enamel being towards the palate, and much wasted by absorption; the posterior nearly perfect. Alveolar abscess had existed for many years. A patient, 28 years of age, had suffered much from St. Vitus' Dance and spasms. Three months since the tooth was removed, and, as yet, no return of St. Vitus' Dance or spasms.

He had also removed a right inferior dens sapientia which was *entirely inverted*, and had been the cause of much suffering and anxiety for eighteen years. The tooth was deeply imbedded, the maxilla being much enlarged. Alveolar abscess had existed for twelve or fifteen years, discharging into the mouth. Physicians had called it a case of caries of the maxilla. The discharge ceased in a few weeks after the removal of the tooth, but the enlargement seems to be permanent.

*The position of the tooth was made very clear by diagrams upon the black-board

On a call being made, the proceedings of the previous day were read, with the articles of the association, and the minutes approved, when, on motion, adjourned to meet at 3½ o'clock, P. M.

At 3½ o'clock, the President called the meeting to order, after which it was proposed to occupy an half hour in discussing the subject of "allaying the sensibility of dentine in preparing cavities in the teeth for filling."

Dr. Clark used nothing to destroy the sensibility of dentine. He dared not do it, having seen so many cases where the vitality of the tooth had been destroyed through an eighth of an inch of solid dentine. Mentioned a case of a lady for whom he operated this season, who had seven destroyed in that way, and all ulcerated, when the largest cavity when filled was not larger than a No. 6 shot. He sometimes used astringents, but never escharotics.

Dr. Rich had used most of the substances suggested for the purpose, but had met with the greatest and safest success with ether, used in a certain way. Inhaling small quantities of ether, which entirely removed the sensibility, if administered carefully, was perfectly successful.

Dr. J. M. Harris had used arsenic occasionally, also cobalt and other articles, but ether latterly and generally; spoke of its happy effects, giving illustrations.

Dr. McQuillen had found arsenic efficacious in relieving excessive sensibility at the neck of the tooth. Pursued the plan proposed by Professor White, of rubbing a short piece of dampened thread in dry arsenic, then tying it round the neck of the tooth for four or five hours when the application is removed, and the surface of bone, which it covered, is well polished with pumice. Never employed arsenic to obtund the sensibility of dentine when preparing a cavity for filling, but used chloride of zinc in the state called butter of zinc, (prior to deliquescence,) when it is soft enough to be cut with the ordinary hatchet-shaped instrument, on the blade of which as small a portion is carried to the cavity as may be desired. To a question, replied that its application is nearly always attended with pain.

Dr. Flagg was in favor of using the arsenic, morphine and creosote in equal parts, but always prepared just before using, and had found it very satisfactory. Had tried ether in some cases.

Dr. Searle had used chloride of zinc in but one instance, and on account of the pain produced, had abandoned it. He preferred *sympathy* and *encouragement* to *poisons* or *caustics*.

Dr. Dwinelle.—The subject interested him greatly, but his success had not been satisfactory; had abandoned the application of arsenic and cobalt. He had found that where it had been used, the teeth

generally were injured or destroyed. He used temporary remedies, such as a strong solution of camphor, in repeated applications; also, chloroform, creosote, tannin and tannate of lead. He related an instance in which he used nitrate of silver, which latter he allowed to remain over night, and, on removing in the morning, he was able to operate with comfort. He explained his method of preparing and applying the arsenic.

Dr. Ballard was pleased to have the opportunity of laying before the meeting a new mode of allaying sensibility. For the past eight months, and latterly with almost invariable success, he had used a combination of chloride of zinc and chloroform. He took a piece of the chloride of zinc about the size of a pea and covered it with chloroform, and used from the soft surface of the zinc. Applied the zinc while excavating, allowing it to drop against the exposed or recent surface of sensitive bone as the decayed matter was being removed. The sensation produced was that of heat. Had never known injury to result from its application. The greatest success with this preparation was met with, when teeth of a soft character are treated; such teeth are usually the most sensitive. Teeth of a dense character require a longer time in the application before the effect is produced; seldom, however, exceeding two or three minutes. It was only in *very* dense yellow teeth that the application had failed in his hands, though *invariable* success could hardly be expected from any one method of treating teeth of any class. Had never been in the habit of using arsenic, but had seen its effects when applied by others, and considered it objectionable.

Dr. Kingsbury had used arsenic, but with bad results; had also used chloride of zinc, chloroform, gun cotton, etc. He removed the decayed portion as best he could, and then polished the surface of the cavity with pumice.

Dr. S. P. Miller had used arsenic in some cases with great success, also used other substances, as morphine and tannin in equal parts, moistened with creosote or chloroform; also used chloride of zinc with occasional benefit.

Dr. J. J. Griffith had found the greatest sensitiveness at the end of the tooth, where the dentine terminated; had a favorable opinion of arsenic.

Prof. Buckingham used chloride of zinc in as crystalline a form as he could obtain it, as a powerful absorbent.

Dr. James Fleming sharpened his excavators as sharply as possible, and then drew the point over a razor strap, and by careful and dexterous manipulation could generally manage the case with satisfaction.

Dr. John Allen had similar experience to give as the last speaker.

Dr. Kingsbury gave some further explanation of his method.

Dr. C. B. Foster had pursued the course of practice alluded to by Dr. Flagg,—creosote, morphia and arsenic—and on applying it immediately in contact with the exposed nerve, permitting it to remain some three hours. Want of success may be owing possibly to the application of too much or in allowing it to remain too long.

Dr. H. H. Martin had used arsenic but without that success he had anticipated. Used chloride of zinc in its crystal form with success.

Dr. C. Moore had used arsenic, morphia and creosote for ten years; before using it had observed this longitudinal process of removing decayed bone; had applied the arsenic in the dry state from a sense of greater safety, and was of opinion it acted best in that form.

Dr. Neall used arsenic for destroying the nerve, and only when he intended to extirpate that organ. He had for many years abandoned its use and that of all the other common assuatives in obtunding sensibility of dentine. He employed (and with a success almost absolutely invariable) this simple formula: To a four inch fine Arkansas stone add six drops of sweet oil, rub in with the blade of a well-formed and well-tempered excavator, applying the result, a fine keen edge, to the margin of the caries, and, bearing well upon the healthy bone with steadiness and quantum suff. of patience, he could *whip out*, in a moment or two, the major and more sensitive parts of the decay, then proceed to form his cavity more deliberately. He always endeavored to cut as much as possible from centre to circumference, and more toward than from him; putting his patient upon his legitimate endurance, and by a prompt and straightforward manner securing the like from him. He (Dr. N.) believed in the magnetism of backbone.

Dr. J. E. Parker could endorse what had been said by the last gentleman. In some cases had used arsenic with satisfactory results, but always preferred the principle of going to the root of the tree.

Dr. Mintzer only used arsenic when the nerve was exposed; used persuasion—remove a little and postpone further operations for a time.

Dr. Arthur thought that a great deal might profitably be said upon this subject. He had made use of arsenic for the purpose, under discussion, and with good results—results so good as to lead him to say without hesitation, that by observing very simple and easily understood precautions it might be used safely. In some case, when he first began to use it, he was free to confess, bad results had followed its use, but he could, subsequently, easily account for these untoward results. His experience with it had since been of the most satisfactory character.

He used it in the dry state and preferred it in the form of cobalt. Cobalt ore contained, he stated, as is well known, a large proportion of arsenic; in combination with cobalt, the arsenic appeared to be less soluble, and consequently less liable to pass through the dentine and affect the pulp injuriously. It was a mistake, he said, to suppose that after the lapse of months or years, arsenic applied in this way could finally reach the pulp unless it was applied in considerable quantity. The minute portion which might remain in the substance of the dentine after preparing a cavity, to which arsenic had been applied for the purpose in question, could not produce the result spoken of. Arsenious acid as it destroys the vitality of a tissue combines with it and becomes inert. For this reason, a given quantity is capable of destroying the vitality of only a given portion of the tissue of a tooth. If a cavity had reached the vicinity of the pulp, and enough arsenic were applied to reach and destroy its vitality, this would occur in a short time. If a few weeks elapsed without untoward symptoms he would not look for them subsequently. He regarded it as necessary that this agent should be used for the purpose of destroying the sensibility of the dentine with great caution, but if due caution were observed, it might be employed, in certain cases, with great advantage both to patient and operator. Prof. A. described the method of employing this agent for the purpose under consideration, at some length.

Prof. E. Parry enumerated various articles which he had tried—*nostrums ad seriatum*—until arsenic came up, which he had used with success.

Dr. Palmer had used arsenic for a number of years, in the smallest possible quantities, in combination with morphia, an objectional remedy but efficacious; viewed it in rather a favorable light.

Dr. O. Munson's experience agreed with many others in method of treatment.

Dr. W. H. Goddard had used all the remedies, yet not satisfied; thought Dr. Neall's method the best that had been suggested.

Prof. White thought five minutes too short to do justice to the subject; his confidence in arsenic was unshaken, and he spoke from an experience of seventeen years. It will destroy the sensibility; have used it in hundreds of cases; applied it dry, spread over the whole surface, and could then cut away with the utmost satisfaction and without subsequent danger; used chloride of zinc where he found that substance which he would denominate corky: it give a dull pain yet removable, but after two or three applications the decay may be removed without any pain. Where arsenic had been allowed to remain too long

it permeated the gum and then he had to treat the tooth for inflammation of the pulp; he used it alone in contact with the surface, it thus acts more promptly. It is impossible to use it without danger to the pulp cavity, therefore great care must be observed. He here gave the risks; was careful to remove every particle; he never put it in a deep seated cavity.

Dr. James Locke, by request, explained by models his method of getting up casts or dies by a new form of flask; after which, on motion, the thanks of the convention were tendered him for the explanations given and for his liberality in bringing it before the profession.

On motion, an assessment of one dollar on those present was made to meet expenses of meeting.

On motion of Dr. Charles Moore, the place and time of meeting for the next year, was now considered, and decided in favor of the city of New York, on the first Wednesday of August.

On motion, adjourned to meet next morning at 9 o'clock.

In the evening, the strangers in the city, by invitation of the Philadelphia members, partook of a collation at Parkinson's, at which many of the good things of life were discussed and appropriate sentiments given by Drs. Arthur, Dwinelle, Townsend, Rich, D. Neall, J. S. Clark, J. D. White, Ballard, Palmer and C. O. Cone.

SATURDAY MORNING.

The convention came to order at 9½ o'clock. Minutes of the previous day's proceedings read and approved.

Dr. Townsend alluded to the danger of sometimes having a finger bruised in the mouth of the patient, and exhibited an appliance, in the form of a large gold signet ring, which he stated had been presented to him by the heirs of Dr. Flagg, of Boston; also exhibited two file carriers, of a somewhat peculiar form, and carrying files of a V shape.

Dr. Gilliams would embrace the opportunity to apologize to Dr. Bonsall, for having thirty-five years ago hurt his feelings. Dr. Bonsall immediately explained the circumstance as follows: Thirty-five years ago he had called upon Dr. Gilliams for professional services, on which occasion the Dr. had extracted three teeth for him, one of which he had to split in removing, *which had hurt his feelings very much.*

Dr. Flagg explained his method of taking plaster models either for correcting irregularities or getting his metallic casts. In the composition of casts, uses tin 3, lead 7, bismuth 6. Melt lead first then add the others.

Dr. Townsend, in a few remarks, alluded to the necessity of havin

to fight both the patient and family physician, because of pre-conceived notions and medical advice, and having to contend against these adverse influences, relating cases in illustration.

He considered filing teeth a very important matter, was rather adverse to wedging teeth apart; preferred filing, the spaces being thus more easily kept clean. Alluded to having seen teeth filed by Dr. Gilliams forty years ago, and in good condition.

Dr. Gilliams gave his experience in filing teeth, remembered a case in which the patient in eating corn off the cob only secured every other grain, this he thought a rather free use of the file, but was favorable to the file, and used it freely.

Dr. S. P. Miller, in speaking on the same subject, related a case where the patient asked him if he "worked on the soft pressure system," stating that she had had her teeth operated on a few weeks prior in New York, on that system without hurting her, but that the fillings were all gone and she wished her teeth attended to.

He proceeded to make the necessary use of the file and chisel preparatory to filling, but met with great opposition from the patient, who insisted, with much feeling, that he was not operating upon the same principle the former dentist had. By a firm course, however, and appeals to her judgment, she finally consented to have him proceed on what he would term in contradistinction, "the high-pressure principle." He recommended to treat patients with kindness and forbearance, but whenever, from whim or caprice, they undertake to control the operator and drive him from *his* position, to drive them from *theirs*, and require strict obedience to the requirements of the case in hand.

Dr. J. M. Harris was a strong friend to the file, if not direct, indirect; used cutting instruments as a substitute for the file. Had seen many teeth operated upon by many gentlemen—Drs. Hudson, Planton and others. Alluded to the variable character of the teeth, and thought preference should be had to this fact in the use of the file.

Dr. Townsend was glad the different methods of separating the teeth had been spoken of; he used cutters as preferable in many cases; used them much more than files. Thought the dentist should be an artist as well as a dentist; that he should be able to file, as well as supply teeth, with a correct eye and judgment. Was glad to see dentistry set up in separate branches, as well calculated to improve each branch the more rapidly.

Dr. Miller used the file but very little; cut away nine-tenths with chisels and excavators; file very little between back teeth, but make numerous spaces with the chisel.

Dr. Clark.—An interesting question to him ; had had much difficulty in bringing patients to what was considered ultraism in the use of the file in separating. It was the "head and front" of his offending in practice, but with young persons could not assent to the use of the file for the entire separations, when the disease could be removed and the tooth preserved in near its normal shape, and a filling be inserted, retaining a perfect margin of enamel around the filling. He used wedges of India rubber, wood, or cotton, according to the case. He always used great care with children's teeth, not to produce too much inflammation. A careless use of India rubber he thought would do it.

On interrogation, said he was not able to point out the idiosyncrasies presented, under which the application of separating wedges were inadmissible, having never seen in his practice those much-talked-of cases of injury (resulting in the death of the tooth) from their use. He would say, however, that when there was a congested state of the gums, or a tendency to that state, he always had been particularly careful in the application, supposing that injury would more easily be caused by force in separating.

Dr. Flagg was not so strong an advocate of filing teeth ; saved as much of a tooth as possible ; used India rubber, gradually coaxing the teeth apart. His experience with India rubber had been satisfactory.

Dr. McQuillen preferred the chisels, when applicable, to the file, as by their use the operations are facilitated, and patients do not make the same objections to them. Where the teeth approximate so close to each other as to induce a doubt about the existence of decay, had found the introduction of India rubber between the teeth for a few hours of great service, by separating them sufficiently to admit of a thorough examination ; had also found this an advantageous course to be pursued in operating on a class of teeth where the file or chisel must be applied, but from which a very limited portion should be removed.

Dr. John Allen filed freely ; was satisfied many teeth could be saved by the use of the file properly applied.

Prof. Parry alluded to a case where two-thirds of the teeth were filed away and were saved ; was favorable to the use of chisels when applicable ; the practice had come into condemnation from the abuse of it.

Dr. James Locke considered the chief glory of the dentist consisted in saving the natural teeth, rather than in substitutions. The error of many young practitioners was, in filing the front teeth too liberally he was in favor of a discriminating use of the file.

Prof. Buckingham described an instrument he used for cutting the

teeth, which was somewhat in the form of cutting forceps, or Physic's forceps, and which he found very useful in certain cases.

Dr. Ballard never used a file unless compelled; used wedges of wood and India rubber in making a wide separation. When filing was indicated, the operation should be performed thoroughly.

Dr. Neall remarked, he occasionally saw the admirable operations of Hudson, Haydon, Harrington and the earlier operators, in this direction, and thought the operation of filing—its finish, the smoothing of angles, &c., &c.—greatly improved. He considered filing as perfect and as important an operation in its place, as filling; when indicated, went for radical filing for the sake of space, freedom from accumulations, &c., &c. Never filed in straight, but in *curved* lines. He was very fond of an *old* file, for the sake of the good "stuff" generally to be found in it, of which could be formed cutters, chisels, &c., of every conceivable shape. They, with him, were always the forerunners of the file, using it mainly for finishing the space or surface.

Dr. Walton was in favor of a free use of the file, and gave his experience with it.

Dr. Dwinelle had used the file more freely than at present. He seldom used it in filling front cavities—used pine wedges, India rubber, cotton and other substances. Had used boiled India rubber, which was semi-elastic; dispensed with the use of the file whenever possible, yet considered it one of the most valuable instruments in a dental case; related a case where the file had been freely used twenty-five years ago, and the teeth yet in good condition.

Prof. Arthur stated that he always preferred making a permanent separation of teeth requiring filling on their proximate surfaces, to pressing them asunder in the manner advocated by the gentlemen who had preceded him. He preferred this, as the mere act of mastication did a great deal toward keeping these surfaces clean after the operation, contributing consequently a great deal toward their preservation. Upon this subject, a most important one, there was more to be said than could be said by any one on such an occasion.

Dr. Dwinelle explained, by draft upon the black board, how he would operate when the incisors were decayed on the approximal surfaces, in which case he would operate with wedges.

Dr. H. H. Martin felt much interested in the subject, and gave his experience; he had separated with the file, but had occasionally to replace the fillings when separated, with India rubber; still used it, however—but chiefly the file.

Dr. Rich had tried all the known substances, except blocks of wood;

was most pleased with boiled India rubber as preferable to that in the ordinary form ; still used it, as the best article he knew of. In separating, used cutters freely, which had the advantage of removing the tooth-bone more rapidly and pleasantly than the file.

To an inquiry, replied, that he kept the India rubber in place, by the use of metallic caps, silk, etc.

At the close of Dr. Rich's remarks, a proposition was made to change the place of next meeting from New York to Philadelphia, and various reasons given in favor of the change, such as "Philadelphia was most central," "it was the child of Philadelphia," "want of unanimity in New York," and "less professional intercourse there than here," etc., etc., all of which were replied to, and other places proposed, and, after considerable discussion, the proposition was finally withdrawn by the mover.

On motion of Dr. Flagg,

Resolved, That this body recommend to the profession the formation of local associations.

A vote of thanks to the President, for the impartial and satisfactory manner in which he had presided over the convention, was passed unanimously, which was responded to by the President in some complimentary remarks toward those with whom it had been his pleasure and profit to associate with in his studies, his earlier practice, and on the present occasion.

On motion of Dr. Goddard, the thanks of the members residing out of the city (Philadelphia) was returned to the city members, for the kindness extended to them.

On motion, adjourned.

J. R. M'C.

DENTAL HYGIENE—A THEOREMATIC PAPER.

BY JOS. E. GARRETSON.

An American of note, the author of a work somewhat transcendental in its character, just issued from the London press, in his page of introductory, thus remarks : "Truly, I admit the contents of the book to be scarcely, if indeed, they are more than partially intelligible, even to myself, yet exists the impressment of its entire truthfulness, and a confidence that time, reflection, and the necessary investigation, will endorse the reality of my phenomenon."

The offspring of a personal observation of several years, and dating back through the observations of others much older in years than our

selves, we have an impressment, which, although as yet an embryo, promises, we think, an addition to our dental hygiene. Unable to give the idea, habiliments, or rather unable to clothe it in that proper dress which satisfies us as to fitness and becomingness; in suggesting it to the attention of the profession, we would divert attention from the want of perspicuity and harmony in the presentation, to the original and abstract idea, for as candidly as our transcendental author, we confess ourselves in a dilemma somewhat similar to his own.

Our impressment is this: That, in connection with local cleanliness, a daily ablution of the ears and surrounding parts in water, the temperature of the season will—the stricture and material of the teeth being fair—preserve, and to a degree arrest the decay of teeth.

Aware how so broad a declaration must be received, we ask, not conversion to our views—and which possibly may be erroneous, probably are—but ourselves nearly, if not quite, convinced of their truthfulness, we do ask a physiological consideration of the abstract, as proving correct, what good shall it enable us to do our fellows.

Not to be hasty in advancing a theory which further investigation—and which it was within our own power to make—might prove foundationless, we, in continued reflection on the subject, recalled to mind the fact that most of the cases coming under our immediate observation, where change was attributed to this hygienic treatment, had been remarked in persons whose years predicated that common change of life at which time physical improvement is generally expected. This at once, and naturally, we received as the explanation, and our hydrophathy was repudiated; and here, but for circumstances begetting a new interest, the matter would have dropped from our mind.

Premising, then, our occupancy of these premises, we deem it an unnecessary, as well as it would be an uninteresting employment of valuable pages to cite the cases sireing the new interest, as that interest existing, the individual cases could in nowise effect the theory. Philosophy, then, demands the reason for such a belief. Unable entirely to satisfy ourselves in an elucidation, perhaps we should scarcely hope to engage the interest of others, much less to impress an explanation which shall be satisfactory.

Let us prelude the attempt with a species of apology.

We believe the sun to be the centre of heat, the source of light, but know not of a certainty what the sun is. We believe the heart to be a vital centre, but who can explain its workings? Likewise, we receive as truths numberless doctrines entirely inexplicable; yet is truth not

less a truth—not less “an eternal development”—not less a forever shining beacon.

Should the physiological explanation we purpose attempting, prove incorrect, yet may not our views be, the fault lying in our inability, our misconceptions of the relations of organ with organ; while, should the reverse prove true—our views incorrect—then our structure, resting on the sandy foundation, can do no harm, and but needs a little time to crumble back into its native element.

And again, even should they prove but empty ideas, we feel we shall not have unhappily occupied these pages. We love theorizing—believe it to be the principal of improvement, the Archimedian lever which buoys up the world. Theory seldom results in harm, mostly in good. It was theory, you remember, denied the idealist, Marco Pola, a new world, and yet gave it to Vespucci and Columbus. It was theory denied Newton in his fatal error of the fall of the moon, yet gave the correction to Phillips. It was theory denied Herschell a sight of the mountains of Mercury, yet discovered them to Schroeter. Stone on stone, theory on theory, and soon the structure of darkening error shall be overlooked, introducing our conceptions into a millenium of never-ending brightness. No! No danger of too much theorizing, at least in the present condition of dental science. Only see what it has already done for us. Theory gave us our escharotic for the destruction of the dental pulp, has given us obtunders, anæsthesia, antisceptics—has given us indeed the seven league boots of progression.

And here, in passing—the preceding paragraphs call up the reflection—we must be allowed to give expression to the homage involuntarily springing up within us towards those noble pioneers of scientific dentistry, who taught the profession they followed, that which was a science as well as an art. Taught them that to be able to contribute the full quota of good to their fellows, they must be thinking men, educated men. A few years back, and the term dentist was synonymous with sacrificer. Now, thanks to the teachings of those of whom we speak, it is saviour. But we lack expression, really. We have no words expressive of our admiration of those dauntless men, who, sacrificing comfort, money, domestic ease, all that man calls enjoyable, devoted their energies to the advancement of their profession and the good of their fellows; and what a debt do we owe them? what a debt does the “wide, wide world” owe them? Truly, in remembering our connection with a profession which has been honored, and is honored with the presence of such men, we feel our self-respect increase; ay, we are proud, yes proud, if we but occupy a recognized seat, however

lowly, in a profession headed by such noble men ; for it does require courage, true courage, to face the leers and jeers with which new pretensions have been, and are ever greeted ; such greeting as Hervey received, as Watts, as Fulton, and as Jenner received, and this courage they possessed. It does require dauntless energy to build up that which avarice and charlatanism has demeaned, and this they did. It does require ability to delve from the cumbrous mass of ignorance and prejudice to the pure gold of science, and this they enjoyed. Yes ! honor, profit and reputation, be the eclat of such men.

To return to the subject of our theory. It has interest, and we may hope to have attention, while as tersely as possible, we take a general view of a hydropathic hygiene ; this we intrude on the attention, because it is the platform against which only we may rear our own, and without which we would fear to trust its gravity for a self-support, for a new doctrine never had too many props, and possibly cannot have too many. We take the hint. "Immersion in cold water," says Buchan, "is a custom which lays claim to remote antiquity." Indeed it must have been coeval with man himself. The necessity of water for the purpose of cleanliness, and the pleasure arising from its application to the body, must very early have recommended it to the human species. Even the example of other animals was sufficient to give the hint to man. By instinct, many of them are led to apply cold water in this way, and many, when deprived of its use, have been known to languish, and even die ; but whether the practice arose from necessity, reasoning, imitation or choice, is an inquiry of little consequence.

People are apt to imagine that the simple element of cold water can do no hurt, and that they may plunge into it at any time with impunity. In this, however, they are mistaken. I have known apoplexies occasioned by going into a cold bath, fevers excited by staying too long in it, and other maladies so much aggravated as to be rendered incurable. Without a proper discrimination in regard to the disease and the constitution of the patient, the most powerful medicine is more likely to do harm than good. The physician who cured Augustus by cold bathing killed his heir by the very same prescription. This induced the Roman Senate to make laws for regulating the bath and preventing the numerous ills which arose from an imprudent and promiscuous use of those elegant and fashionable places of luxury. But as no such laws exist in this country, every one does that which is right in his own eyes, and of course many must do wrong.

"Absurd prejudices against cold bathing are not less blamable on the other hand, though it should never be prescribed for the cure of

disease without well considering the nature of each case. It cannot be too earnestly or too generally recommended as a preservative of health. I am, therefore, sorry to see modern writers attempting to revive the long-exploded doctrine of Galen, who said that "immersion in cold water was fit only for the young of lions and bears, and that warm bathing was conducive to the growth and strength of infants." How egregiously do the greatest men err when they loose sight of facts and substitute sallies of wit, or specious argument in physie, for observation and experience. But the superior excellence of the cold bath is placed beyond a doubt. Its tonic properties are found to be peculiarly proper for the lax fibres, rendering them firm and elastic, and enabling the vital organs to perform their respective functions with ease and regularity.

Nothing contributes more to the growth, vigor and firmness of youth, or to the activity and permanent health of manhood, than daily immersion in cold water. It steels the frame against the changes of weather, against the impressions of cold and moisture, and many other external injuries. It is, of course, the best preventive of all those diseases which arise from a relaxed skin, obstructed or profuse perspiration, and nervous weakness.

If the immersion be followed by a pleasant glow, and a sense of increasing alacrity, it is the best proof of its agreeing with the constitution, and of its being likely to have a happy influence on the whole frame. Hence, the cold bath is found to be an excellent bracer and restorative in cases of languor, of habitual lassitude, and of muscular or nervous weakness.

The great efficacy of the cold bath has often been experienced in scrofulous complaints, which are always attended with weakness and relaxation of the fibres, and a strong disposition to languor and indolence. In such cases the cold bath is not only recommended as a tonic and bracer, but as a powerful detergent and purifier. No difference of opinion exists on this head, as far as it relates to scrofula, but it has been alleged that cold water, though a good preventive of scrofula, could not remove the local effects when once formed, but the contrary doctrine appears to me to be supported by the fairest reasoning, and, what is more, by indisputable facts.

In the first place, a weak, flaccid habit, and a thin skin, very susceptible of impressions from cold, moist air, are the principal, if not the only predisposing causes of the scrofula. Now the cold bath is the best remedy for both, as it renders the texture of the skin firm, and invigorates the system. By being therefore so well adapted to obviate causes, it must, according to one of the surest maxims of medical prac-

tice, be fit to remove effects. The justness of such an inference has been placed beyond a doubt by the reports of men of professional eminence and veracity, under whose directions, and immediate inspection also, the bath has been known to resolve swellings of the glands and correct the discharge of serofulous ulcers, and to dispose them to heal.

Asking a consideration of this general expression of the effects of the cold bath, we will now centre down to our speciality.

What dentist in reasonable practice but has often under care, patients of this serofulous diathesis? He may manipulate and re-manipulate, but does he succeed in saving the teeth? Not satisfactorily to himself, we think we may answer. Dental operations here, then, is not the curative treatment, for the cause of disease is not removed, and so long as a cause of disease remains, the effect is to be, and should be expected. If, then, we agree with the authority quoted, that local, general, plain and sea water bathing conquers this diathesis, then, to be successful, we must adopt the general in connection with our local dental treatment; but, agreeing or disagreeing, the case is the same, the taint must be removed or dental surgery will avail the patient but little.

The effects of the local application of cold and salt water at the commencement of this disease, is made almost immediately evident, for by a continued application about the ears, the small knots which there collect are scattered and dispelled; suffered to remain, they rapidly enlarge and spread, affecting the gland and vessels of the parts, and of course interfering with the proper performance of these functions. And as of the fountain, impure at its source, so must its streams be; as of the nerve, affected at its centre, so must its peripheral be; so when the operations of organs, upon which, for health, that of others in part depend, is affected, we must look for an enlargement of the boundary of disease.

Calling attention to this particular diathesis, we think a moment's reflection from those intimate with the physiology of the parts, must discover the relationship of our hydrópathic hygiene with, in cases of this nature, the health of the teeth.

Let us now proceed to view the application to general constitutions and temperaments.

The natural tendency of the application of cold water to the parts of which we write, or to any part, is first to cleanse, to keep healthy the capillary tubes, and allow of unobstructed egress to particles of waste matter which nature would rid herself of. Secondly, to harden and strengthen, giving vigor and an ability to remain unaffected by atmo-

spheric changes. Thirdly, to lend strength to the nervous, fibrous, muscular and glandular systems.

A friend, in the course of a conversation remarked, "That when exhausted by too close study, or when his faculties seemed sluggish, he invariably resorted to the head bath." Now what is the explanation of a restoration of the vigor he always receives? The third position in the immediately preceding paragraph defines it.

To the effect of this species of bath on the parotid gland, and in turn, the relation of the secretions of this gland to the health of the teeth, let us direct attention.

Because of the affinity of acids for lime, it must be evident that salivary fluid of an acid nature cannot but act to the detriment, not to say destruction of the earthy portions of the teeth, while secretions, alkaline in their description, being detergent, must purify and free from injurious deposition. Without close observation, the variations in the character of the secretions of this gland—influenced by circumstances—would scarcely be credited. When acting sluggishly, because of disease or otherwise, the fluid in a very short time becomes most injuriously acid. But when performing properly and healthfully its functions, remains of the alkaline character are secreted while continuing in proximity with the teeth—and this last is normal.

We say, and we think advisedly, that an acidity of the fluids of the mouth, abnormal, will, slowly perhaps as the coral works, yet as surely, eat up the teeth. Professor White, in a lecture delivered by him in the College at Philadelphia, last winter, presented to his class, for examination, the remains of what had been a beautiful denture of teeth partially destroyed through an abnormal acidity of the fluids of the mouth.

To prevent, then, the injurious effect of acid upon the limy structure of the teeth—we are not here considering stomachic relations—would not the hygienic treatment seem to be the preservation of vigor to the parotid; and if such a deduction is correct, does not such treatment as secures this vigor, preserve the teeth? Really it strikes us as seeming so.

How then is this vigor to be preserved? We presume to suggest by the daily immersion of the head, or ablution of the whole body in water; the temperature of the varying seasons, and the reasons for such a suggestion will be found in a course of analogous reasoning.

Through such immersion, making exceptions for idiosyncrasies, we exert that external influence, admitted by all physiological writers to so materially effect the secretions of the salivary glands—and normally—

for abnormally the same increase might be gained through other channels, the use of tobacco, chamomile flowers, or any stimulant, but with water we give to the gland, and as will be considered further on, an increase of arterial nutrition, thereby increasing its natural capacity and ability, and of consequence its vigor.

If it will repay the trouble of remark, we think it will be found that, in individuals affected with neuralgia in the fifth pair of nerves, the teeth have for a considerable time resisted the action of unhealthy depositions; resisted, until, through a lengthened continuance of the secretions excited, the saliva loses its alkalinity, and with it its detergent powers, and such loss of power would, of course, be the natural result of so abnormal an excitement, while, had it been normal, the first good effects would have been continuous. Facial neuralgia being an abnormal condition of the nervous system of the parts, its effects, of a consequence, must also be abnormal, so that the compelled activity of the glands can but result in the deterioration of their secretions; while, on the other hand, secretions improved in tone, quantity and quality, by an increased growth and strength of the secreting organ, must preserve, in the continuance, the property of the first increased activity.

And so, on this particular point, we might proceed to view the subject in different lights. We leave it, believing ourselves justified in pronouncing the positions advanced endorsed by "common sense," if, indeed, by not more than theoretical physiology.

Let us now turn to a consideration of the effects of the bath on the arterial and nervous systems, and, in turn, the indirect, yet, in our opinion, very direct effects on the teeth.

According to authority,* "nutrition or nutritive assimilation is the modification of the formative process peculiar to living bodies, by which tissues and organs already formed maintain their integrity. By the incorporation of fresh nutritive principles into their substance, the loss consequent on the waste and natural decay of the component particles of the tissue is repaired, and each elementary particle seems to have the power, not only of attracting material from the blood, but of causing them to assume its structure and participate in its vital properties.

"It is by this process that an adult person in health is maintained through a series of years with the same general outline of feature, the same size and form, and perhaps the same weight; although, during all this time, the several portions of the body are continually changing,

* Korke and Paget, Chap. x., page 225.

their particles, decaying and being removed, and then replaced by the formation of new ones, which in their turn also die and pass away."

"Every particle of the body," according to Dr. Carpenter, "is formed for a certain period of existence in the ordinary condition of active life, *and to which period it should exist, if not previously destroyed by outward circumstances.*" Thus we see, in the case of an aged person, who has about finished his pilgrimage—the task of whose life is about ended—the demand for solid food done away; he loses his teeth, not through decay, but by the natural process of exfoliation.

"In order, then, to preserve organs or parts to their destined age, perfect nutrition is necessary. To secure this we must have—first, a right state and composition of the blood, from which materials for nutrition and support are derived; second, a regular and not far-distant supply of such blood; third, a certain influence of the nervous system; fourth, a natural state of the part to be nourished.

"The necessity for an adequate supply of appropriate blood in or near the parts to be nourished, in order that its nutrition may be perfect, is shown in the frequent examples of atrophy, of parts to which little blood is sent; of mortification or arrested nutrition, when the supply is entirely cut off, and of defective nutrition when the blood is stagnant in a part.

"That the nutrition of a part may be perfect, it is also necessary that the blood should be brought sufficiently near to it for the elements of a tissue to imbibe through the walls of the blood vessels the nutritive material they require. The blood vessels themselves take no part or share in the process of nutrition, except as carriers of nutritive matter. Therefore, provided they come so near that this nutritive matter may pass by imbibition into the parts to be nourished, it is comparatively immaterial whether they ramify within the substance of the part, or are distributed only on its surface or border.

"This right condition of the blood, the authority from whence we quote proceeds to say, does not necessarily imply its accordance with any known standard of composition common to all kinds of healthy food, but rather to the existence of a certain adaptation between the blood and the tissues, and even the several portions of the tissue. Such an adaptation, peculiar to each individual, is determined in its first formation, *and is maintained in concurrent development and increase of both blood and tissues; and upon its maintenance in adult life, appears to depend the continuance of a healthy process of nutrition, or, at least, the preservation of that exact sameness in the whole body and its parts, which constitutes the perfection of nutrition.*

If, then, for perfect health the system is so entirely dependent upon a perfect nutrition, it will be found in turn that this circulatory system is as entirely influenced by the condition of the nervous system.

"The power of conducting stimuli or impressions [Koke and Paget,] constitutes a peculiar vital property, and belongs alone to the nervous system. It may be said to consist in this, that the state or change produced in the fibre of a nerve by the application of a stimulus of any kind, may be propagated through the whole length of the fibre so that every part thereof, shall, with immeasurable rapidity, be brought into the same state as the part first stimulated."

"When the body is wet with water [Cutter,] the skin instantly shrinks and the whole of its tissue contracts; this contraction diminishes the capacity of the cutaneous system of blood-vessels, and a portion of blood circulating through them is suddenly thrown upon the more internal parts of the body. The nervous system, among others participates in it, and is stimulated by the afflux and communicates its stimulus to the whole system. This causes a more energetic action of the heart and blood-vessels, and this reaction, giving to the most distant parts their needful supply of arterial blood, necessarily creates new life and strength. Thus the glands are made to secrete more bountifully and vigorously, the dental pulp has no stint of blood, the periosteum receives its quantum and the open tubuli absorb to their necessity."

Viewing alone the matter arterially, we find the bath to effect the stimulating properties of the nervous system, this in turn stimulating the circulatory system, which in turn is made to give to most minute and distant parts a bounteous supply of the life principal. Yet these are but effects and whether for good must depend upon the healthful nature of the arterial blood.

Here, on this point, we will now correct our theories.

"The little, the very little required to effect an unobservable change in the blood is, perhaps, remarkable. The most minute portion of virus affects and in some way alters the whole of the blood—and any alteration, however unconsciously slight, is maintained and continues for long time, and continues, according to standard authors, because all additional material changes not back, but is made by some strange process to assimilate to the blood as it finds it."

When the skin is coated with the cast off cuticle, the dust and soot of the atmosphere fixed by the oily and saline products of the skin, the pores will be obstructed, transpiration impeded, and the influence of the skin as an excretory entirely prevented. When this is allowed the elements of the transpired fluid will necessarily be retained in the

system, and, as they are injurious and poisonous if retained, they must be removed by those organs whose functions in the animal economy are similar.

When these organs are called upon to perform their offices, and in addition, that of another, the healthy equilibrium is destroyed and the oppressed organ will suffer from exhaustion and become the prey of disease. Thus immediately we have the character of the blood changed, the general system sympathizing, and a continuance of the prognosis: "The wayfaring man, though a fool, may read as he runs."

We speak of a head and neck bath as a hygienic treatment, yet we would be understood as preferring a general bath. The head and neck being parts of the body most exposed, uncovered by absorbing material, necessarily gather more quickly this obstructing coating which we have just noticed; a daily ablution of these parts, then, and particularly when viewed in connection with its preservation as a healthful excretory, seems more desirable than that of other parts, and indeed, much more necessary, for we incline to the belief that the common change of linen, and the weekly ablutions which all making pretensions to common cleanliness indulge in, will and does secure to covered parts a healthful condition.

If here we admit—and he would be a curious dentist who doubts it—that tooth substance is organic, depending for health, alike with other organs and parts, on the general system, of part upon part, then we think we have fairly demonstrated a connection, and which a continued consideration of the subject will bring much closer together than at a casual reading might appear.

Counting over the pages we have already written, and well knowing the general fate of lengthy articles, we feel we should, at present forego the continued consideration of the subject we had intended. The matter it will be seen, however, has a variety of aspects and may be studied, we think, with advantage and interest.

But it has, at this point of our writing, been alleged—and we feel we should notice it—that tooth substance, guarded by enamel, can resist the attacks of an abnormal acidity; we beg to disagree—*an* firstly, because of the known chemical affinity of acid for lime secondly, because the same disease or sluggish deposition begetting the acidity, as well begets a deposition of tooth substance, disposing it to decay.

We will leave the subject—alluding to another objection. Saliva calculus being held in abeyance by acidity, it has been suggested that the alkalinity acquired from the parotid gland would prove a positive

injury. Or, if doing good one way, would do a consequent ill in another. This objection on first thought might strike one, yet the second marks its utter absurdity. It is undeniable, that an acid saliva dissolves and carries off this tooth-destroying deposition, and consequently an alkaline saliva, it would seem, would act reversely. But the matter is entirely reversed the moment we consider the formative process through which we have tartar. Salivary calculus we believe to be formed because of that indolence of the secretory glands, which allows a deposition of component parts because of being unable to hold them in solution. How much better, then, a hygienic, than curative treatment.

We before remarked, that the head-bath compelled the glands to vigorous action, and which, as well as giving us a continued alkalinity, secures us against the possibility of tartar depositions—secures us, because the increased and vigorous secretions hold the component parts of tartar in solution, and such being the case, there is nothing to form the destructible coating.

ON THE USE OF AMALGAM FOR FILLING TEETH.

BY ELISHA TOWNSEND.

It is somehow held to be more creditable to learn what one has not known, than to unlearn what he has erroneously believed. Blank ignorance shows a clearer account than posted mistakes, though it may not foot up any better at settlement day.

During his professional novitiate, the student is held innocent of that which he is faithfully pursuing, but has not yet attained; and the same gentleness of construction is allowed to cover the unknown, which lies beyond the acquisitions of the expert; but how embarrassing it is to a practitioner, with a dozen or a score of years of experience endorsing his diploma, to back square out of a mistake which he has been publicly pledged for!

Intending to make no excuse for my own tardiness in recanting a professional error, lest I should be betrayed into a justification of it, and inviting my brethren in the same category with myself to come up to the mark with as little reserve, I propose to give my present views upon the much vexed question of the propriety of the use of amalgams for filling teeth.

I have myself been so far ruled and over-ruled by authority in this matter, that I cannot honestly allow my own little influence to be

responsible for its share, however small that may be, in the perpetuation of an injurious prejudice.

I cannot charge myself with either *great* rashness or *great* obstinacy in this matter, but on a full survey of all the points of principle and propriety, I can no longer withhold from the profession those clear conclusions which have now for some time governed my own practice, and must influence me until they shall be corrected by farther light and knowledge.

Without any more explanations I put myself into the witness box, and will be ready after the simplest delivery of my testimony *in chief*; for the *cross examination*, using both terms, however, in the sense which the lawyers give them, and neither allowing nor expecting any punning upon the words which imply punishment.

In 1834, I filled the posterior and buccal surface of an inferior dens sapientia for a professional friend, with the amalgam of mercury and silver. It was considered impossible, from its position and frailty, to fill it with any thing else, and we supposed it might be retained for a year or two. It is now, though discolored, as good for a masticating organ as ever it was. The adjoining molar, which was apparently sound at that time, has since decayed and been removed. About the same time I filled a tooth for a clerical gentleman, which, though but a shell, he deemed very important. Of the success of this I gave him but little hope. I have seen it within three months, and it is as good as when filled. After a few more fillings, (all intended as experimental and to be carefully watched,) I abandoned the practice, not from a failure, so far as I was able to see in any of the operations I had performed, but because I was told that it was doing much harm, and that the good done by saving a few shells of teeth, even if they were saved, was more than counterbalanced by the injury inflicted upon the profession and the public by the quacks, who were authorized to use it by our example. This argument, used by men for whom in every way I had, and still have, the highest respect, and who stood in the foremost rank of the profession, made me willing to refrain from its use, and from that time until September, 1854, I never did use it.

My attention was then called to it by a professional friend in New York, who told me he had been making a series of experiments which had fully convinced him of its value, and also of its freedom from all the objections which had been urged against it by its opposers. These objections were—

1st. That it became black, and discolored the teeth in which it was placed. 2d. That it had produced salivation or pyalism. 3d. Tha

it contracted in hardening, and therefore did not fill the cavity, allowing moisture to surround it and reproduce decay.

The first of these objections did exist, but is entirely removed by the present method of preparing it, which consists, mainly, in adding a large portion of pure tin, and then washing the compound thoroughly with absolute alcohol. This, if carefully done, will insure its remaining almost as white as frosted silver.

The second objection, though answered with as much certainty, may not be so easy of conclusive proof. I have not been able to find any one, on whose judgment I could rely, and who really knew what ptyalism was, say he had met with a case of sure and marked character. Some had met with great tumefaction of the gums, looseness of the teeth, ulceration, &c., but we know that all these conditions are present in cases where no mercury has been employed. Stopping a carious tooth with a pledget of cotton, where there is disposition to alveolar abscess, will produce great swelling. Carelessness and want of cleanliness will allow accumulations of tartar, and a consequent loosening of the teeth, accompanied by a fetor of the breath, equal in disagreeableness to the odor of ptyalism, and not very readily distinguishable from it in all cases.

I know of one case which was reported as one of decided salivation, and confirmed also by two physicians, which was said to come from four large amalgam fillings; the mouth was very filthy, and no care had been taken by the patient to cleanse it. She was told it was so much diseased that she must lose all her teeth, perhaps her life. This filthy mouth was cleaned, the gums properly treated, and entirely restored to health, without even removing the fillings on whose devoted heads the anathema had been poured. The mercury of the amalgam was, therefore, clearly not answerable for the symptoms in the case, and I have not been able to find any other that would better warrant the charge against the material, at least no case or fact which requires us to rule it out of practice on this apprehension.

3dly. It contracted in hardening, &c. This, by actual and careful experiment, it is proven not to do. It is well known that all substances or compounds which harden by the process of crystallization, rather expand than diminish their bulk. Now an amalgam of silver and mercury hardens by this process, and therefore cannot contract. That it does not contract is well proved, besides, by all experience of its use in dental cavities.

But, it will be urged, you endorse all the quacks in their empiricism by your example. Not at all; for it will be found to require as nice

skill in the preparation of the cavity, as great care in the preparation of the material, and as much dexterity of manipulation in using it as are required in the employment of gold for the purpose. I would ask, does a physician, who gives calomel or arsenic judiciously, as he knows how to do from his teachings and experience, endorse the indiscriminate use of the same agents in the hands of the quack? is he in any way responsible? I think not.

Now, it is well known to all dentists of large practice, that cases are constantly coming into their hands where the cavity of decay is so situated as to be impossible to be certain that the particles of gold are placed in such apposition as effectually to exclude moisture and the chemical agents which produce caries, and in such cases, if what we claim for amalgam be true, it should take the place of gold; it can be packed closely and firmly, filling every part of the cavity without endangering the texture of the thinnest shell. If this can be done, as with this material we know it has been by very poor operators, how much more valuable does it become in the hands of the expert and careful manipulator? In a future paper I will give some cases in which I think it better than gold, with directions for the proper preparation of the material, and the mode of its employment and application. Now, I am only concerned to put in a plea for a material that I deem to have been unjustly put under ban by those who were unacquainted with any good there might be in it, and who, for the most part, saw it only in cases where, if the same operator had used gold or tin, the result would have been more disastrous to the teeth.

The following case is to the point: Twelve years since a lady came to me for professional advice and aid, and among the things she wished me to do, was to remove two amalgam fillings from her front incisors, put in three years before; the enamel was very thin, and slightly cracked; the fillings showed black through it. I told her I thought it would be impossible to get it out without breaking the teeth, as it was their principal support. These teeth I have watched, at intervals of six to eight months, ever since, until last spring, when the lady died of disease of the lungs. The teeth were serviceable to her to the last, and in appearance were as good as when I first saw them. I venture the assertion, that had they been filled with gold fifteen years since, even by the most expert operator, they would not as they did, have served her through life.

I mention this as a case which clearly sustains all the points for which I offer it. It may not, perhaps, have been warrantable to fill a front tooth with a preparation which would become so black; but th

object of filling teeth is to save them the longest time possible, with as little detriment to their appearance as possible; if this can be better done by a plastic material, than one which requires heavy pressure for consolidation, then the plastic material is the better; and if that material can be relieved of its objectionable feature of discoloring, we have another agent in our service, where it is believed to be preferable.

Neither do I fear, as some do, that it will render dentistry so easy that there will be laxity of moral feeling in the prosecution of our duty—for, if properly done, no time is saved to the dentist, no care lessened of manipulation in the proper preparation of the cavity, and a great deal of care and skill are necessary to pack and work the amalgam to a proper surface. I do not think, either, that it ever can or will supersede the use of gold foil, where gold can be used; but there are cases occurring in the practice of every dentist, in which, if he does his best duty to his patient, he is bound to use it, if he knows how.

Contenting myself, for the present, with the avowal rather than with the description, or ample examination of opinions stated, I wait another opportunity for presenting the results of experience and its teachings to my brethren in the profession, and I would be glad, in the mean time, to learn from them whatever they know, for and against the practice.

P. S.—Since writing the above I have been made aware of the necessity of giving some directions now, as to the proper preparation of the amalgam for insertion, as I find some have been experimenting without being aware of the requirements to ensure success. Recipe—4 parts of pure silver; 5 parts pure tin. The silver to be melted in a crucible, and when partially cooled, the melted tin slowly added, carefully shaking the crucible while pouring in the tin; a black flux is then thrown in, and the whole is reheated; then poured into the ingot. I am indebted for this method of preparation, to Dr. Wm. M. Hunter, of Cincinnati. It should be filed with a sharp keen file, which is kept for the purpose, and used for no other. A good magnet should then be carefully passed through it to remove any portions of steel that may have separated from the file. It is then to be bottled ready for use. After the tooth is perfectly prepared for filling, stuff it with cotton to exclude moisture, that you may more readily make the cavity perfectly dry when you have the composition ready, and lose no time, as it is needful it should be used as soon as possible after mixing. To mix it, take in the palm of the hand a globule of pure mercury, upon this put as much filings as you think will be sufficient

to fill the cavity, rub these well together with the finger until they have thoroughly united, you then have a paste which is very soft and plastic, put it into a mortar, either glass or wedgewood, and put to it a teaspoonful of absolute alcohol; by tritulating this you will soon find the alcohol become blackened, pour it off and add more, and so on until the compound is thoroughly clean, then remove it from the mortar, dry it, and in a piece of chamois leather, or a twilled cloth, clear it of the superfluous mercury, by twisting in the fingers or squeezing in a vice. You then have a cake of white metal, which can be broken into pieces and be made to adhere to each other so as to form a uniform solid mass. In placing it in the cavity it should be used in small portions, taking care that the lower portions, or those in the bottom of the cavity, are firmly pressed down; in this way the cavity may be entirely filled, so as to leave it projecting a little beyond the surface. The burnisher may then be used to compress and smooth it, and alternately scraping the superfluous portions and burnishing until it has begun to harden, then it may be left until the next day, with direction to the patient not to use the side of the mouth until the next day; after twenty-four hours the filling may be filed and stoned and polished, as is usual with gold or tin fillings.

For packing the compound, I have found the point of a small file, such as is used for finishing plugs, the best instrument, and by softening the opposite end and thinning it, so as to make a sort of spatula of it, you have two instruments in one. I prefer to use it dry, and to keep the mouth and cavity dry while packing it, as I do all kinds of filling; though I have been sometimes very successful even where the saliva reached it before finishing. Now I do not say, or think, that the method I have proposed, is the only, or it may be the best way, but for the present it is my method of using it, and I throw out these hints in the hope that the many energetic and scientific workers in our profession, will endeavor its improvement until it shall be all we desire. It is well known that several centuries since, the Chinese had a method of filling teeth with some material which was of the texture and color of enamel, but unfortunately the art is lost. Who knows but that some American dentist entering this field of the unknown, may recover this great secret, and thereby improve his art and bless mankind.

THE ETHER QUESTION.

BY J. E. GARRETSON.

[Continued from page 225.]

Employment of Ether in Fits.—Perhaps it may be thought scarcely within the province of a paper professedly dental to range excursive into the domain of the sister science; yet, as a dentist gave the anæsthesia to the world, possibly the columns of a dental publication might not be unprofitably employed in presenting cases of the employment of the agent believed to be unique. Tersely and without remark, we present to that class of our fellows within whose speciality such cases come, the following, as in duty we feel bound. If it is not new to our brother practitioners, we are pleased, as they will have experiences to give in on the subject; if it should be unique, we make little doubt but it will receive that attention from those interested, its importance seems to demand.

The case is that of a child some seven years of age, afflicted from infancy with fits, and who was completely cured by the accidental exhibition of this still not fully understood catholicon, and that after the Pharmacopia had been searched in vain for a remedy, after physicians had failed and after hope had deserted even a parent's breast.

The parent of the child, a brother practitioner, after describing at length the sufferings of his child, and the great affliction it was to the family, thus proceeds: "On a Sunday morning some two years back, just as we were about seating ourselves around the breakfast table, Annie fell in one of her spells to the floor; we had never known her so severely held, every gasp we expected would be her last; frightened and half unconscious of what I was doing, I ran to the ether bottle, saturating my handkerchief I held it to the mouth and nostrils of the child; imagine my happiness, as in a very few moments I beheld her sink back as if in an easy slumber." Our friend closed by the information that the child lay in this sleeping state until sometime in the afternoon, since which time she has had no return of the disease, and has grown a fine and healthy girl. While we may be mistaken, yet we believe this to be the only case in which sulphuric ether has been employed in this terrible affliction. If in other cases it acts as in the one just related, surely have its supporters an additional reason to hail it as a matchless and priceless discovery.

Facial Neuralgia treated by the inhalation of Ether.—F. Sibson, resident surgeon to the Nottingham general hospital, thus writes: "It seems probable that in some cases of neuralgia we shall find this new agent efficacious, especially in those cases due to a reflected morbid

sensation in the facial nerve, excited either in the nerves of the stomach, skin or uterus.

“On the 30th, came to the hospital a patient who had been treated with carbonate of iron, and extract of belladonna, with but little relief; she was suffering from agonizing pain in the right side of the face; she inhaled the ether. In about two minutes the pain disappeared; she was quite conscious, had no agreeable or exciting sensations, but felt “rather numbed all over.” The object being merely to obliterate pain—not to annihilate consciousness and general sensibility, the inhalation was discontinued. In about ten minutes after its discontinuance she felt pain, which was removed by inhalation. A few minutes after its discontinuance she felt faint; she soon recovered and walked home an hour afterwards. About three hours after the administration a ‘feeling of jumping’ came on for an instant, in the left side of the face, and after supper the same side ‘ached and jumped’ for a few minutes. Next morning she was quite free from pain.

“About a fortnight afterwards the patient had another attack cut short in the same manner. A second patient was relieved of pain in about a minute without being unconscious; in four other cases unconsciousness was produced, and when the patients awoke they were free from pain.”

Mr. Collor, in the *Pharmaceutical Journal*, thus proceeds in an article on the subject—“In the course of conversation on the effects of the inhalation of the vapor of ether, a lady made a statement which I think you will agree with me is quite worth repeating through the medium of your journal. She says that about twenty-two or three years ago she suffered severely for many months, from *tic douloureux*, and having received little or no relief from various kinds of medical treatment, was ultimately advised by a dentist living in Ipswich to apply ether and laudanum mixed, externally, and at the same time to inhale the vapor, taking care to be on the bed when using it; the immediate effect was always sleep, on awakening from which she always found herself free from pain. She does not remember how long she used the remedy, but says she was soon cured entirely, and has never had another attack.”

Nervous excitement allayed with Ether.—Mrs. M—, daughter of one of our most eminent physicians, a nervous lady of some forty years of age, in the habit of attending her children to our office, to whom we have had occasion several times to administer ether, conceived that the smell of escaped ether, as she was with us in the closed room, exerted a quieting influence on her nerves; afterwards, when feeling one of her severer spells coming on, she resorted to inhalation of the vapor, and

with immediate beneficial effects, being, and as remarked in the case presented by M. Collor, thrown into a sleeping state from which she awoke calm and refreshed. It has, as she informs us, been since, her only remedy, and in her own language she feels as if it was the saviour of her happiness, a staff upon which she may confidently lean, conqueror of indescribable misery.

Of all the discomforts and afflictions endured by mankind, few are more to be dreaded than a shattered condition of the nervous system; few remedies to be more highly prized than that which corrects such an evil: let those afflicted in this way give this case consideration. If we might be allowed to suggest, we would recommend prudent care, the patient pouring a small quantity of ether on the napkin and slowly inhaling. In the case of which we speak, the quieting influence is immediate, and continuous to the sleeping state; there seems no occasion to carry the process to the unconscious state, although in this, as in matters generally, circumstances may alter cases.

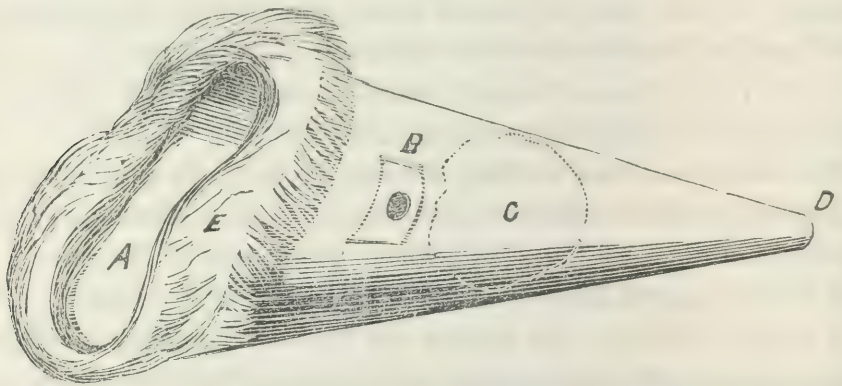
We have this moment recalled to mind the death, by consumption, of a young and talented poet friend, and who now lays mouldering—a mute, inglorious Milton—in a retired village graveyard in Maryland; his death hastened, as we incline to believe, by a too free use of ether inhaled for a nervous disease. We present this case not as an objective argument but as a cautioning example of the abuse of an agent which cases of similar diseases have proven its proper employment good.

But we will not allow ourselves to occupy space in the enumeration of the actions of this singular agent in various situations. The interested need but read to inform himself. As medicine is a kindred science, so is the knowledge of an agent in its varied ramifications necessary to a proper understanding of it. We have taken the liberty to present the few immediately preceding cases to that class of readers for whom we write, rather as a nucleus around which, if they desire, they may so easily gather corresponding matter. We presume to think such acquaintance necessary to a just appreciation of the subject, for as of men, so of agents—actions give them the proper stamp.

A LEAF FROM OUR EVERY-DAY PRACTICE.

Remembering with what avidity, in the younger days of our professional life, we sought the practical divested of the theoretical, we have thought that in closing—our perhaps already too lengthy paper—a leaf from our own practice might not be without benefit to some young members who are preparing, or are about launching their bark on the ethereal sea. As well as our unpracticed fingers will allow, we present a drawing

of an instrument which, without doubt, will call forth many a laugh, as it has time and again provoked many an uncomplimentary expression. It is our inhaler, and may be made of pasteboard, tin, silver, or almost any convenient material. Candidly, we admit that numberless times have we been laughed at for keeping such a simple-looking contrivance in our cabinet, but we have yet to be convinced that for dental purposes it is not amongst the best instruments extant. Indeed, we incline to think it about the only anti-danger inhaler—if danger is feared—for it seems impossible that with it enough ether could at once be given even to an “idiosyncrasy” to effect fatally, while we are seldom called upon to renew the ether we pour on the enclosed sponge, to effect etherization to the state we desire.



A, the mouth of our trumpet-shaped inhaler; *E*, a napkin sewed loosely around the mouth; *B*, valve for the escape of expired air; *C*, sponge to hold the ether; *D*, an open end.

In noting the advantages we claim for this simple inhaler, we would for a moment digress in comment upon what we deem the condemning imperfections of others we have seen; the first and chief objections of inhalers generally is the respiratory effort necessary to inhale the ether, the raising of valves between the mouth-piece and agent, costing an exertion which in an advanced age of etherization makes too great a demand upon the physical powers of the patient, and in skillless hands might result in an unpleasant smothering process, and possibly fatally. Our attention some time since was invited to the construction of an instrument of which serious thoughts were had of patenting. So far as beauty was concerned, it at once gained our unqualified approbation, but when an attempt was made to etherize us with it, the leaf was turned, and we felt compelled to give it the mark of the wolf in sheep's clothing. After breathing at our usual rate for some two or three minutes, feeling our consciousness nowise disturbed, we naturally looked up for an explanation. “Oh!” said our operator, “You cannot be

breathing hard enough." Sure enough, a painful respiratory exertion, and which perhaps we might have managed to have kept up a minute, set in motion a variety of valves which discovered the whereabouts of the anæsthesia. In this case it was all air and no ether, or all ether and no air, or if there was the desired amalgamation, it was effected at an improper point. That it was an economical inhaler we admit, no ether could by any possibility be wasted, but success should be the desideratum, not the penny-wise policy, and this we endeavor to practice, we care not whether it might cost five cents or fifty to properly effect the object; satisfaction must certainly afford an ample equivalent. From a review of articles written on the subject of inhalers by Drs. Snow, Tracy, Boot, Hooper, and several others, gentlemen who have given close attention to the subject, it would seem that while each employ different means, all unite in agreeing that: Firstly, that the air taken into the lungs should be that exclusively which has passed through the ether, and thus saturated with its vapor. Secondly, that the mouth-piece of an instrument be so constructed as to prevent the admission of free atmosphere. Thirdly, that the expired air escape freely. These, in connection with good ether, they deem all the requisites in the hands of the practitioner. Believing with them, that these are the requisites, we again refer to our simple instrument. Firstly, in the employment of material for its construction, while our own is made of tin, we would suggest silver as preferable to anything else, for being an admirable conductor of heat, the mere absorption of heat from the hand while holding it, would compel the more rapid vaporization of the ether, while, with little effort, it could be kept sweet and clean, the last of moment, with all things employed in the dentist's surgery.

Now let us compare the desiderata mentioned with the offices of our inhaler. The napkin surrounding the mouth-piece rests comfortably, and prevents, when desired, either ingress of air or egress of ether. The sponge *C*, holds the desired quantity of ether. The opening *D*, (and which should be $\frac{1}{2}$ inch in diameter), admits in desired volume the air to be saturated, and which must pass direct through the sponge. *B*, is the vale, made of a piece of the lightest sheepskin, giving egress at the proper time and point to the expired air. Does it not seem that here we have simplicity and perfectness combined? and if the desiderata mentioned comprise all that is necessary, where is the fault of our instrument? To Henry Clark, M. D., of Woodbury, we are indebted for the instrument we own, he having used a similar one for years, in an extensive surgical practice, though whether or not the idea was original with him, we are unprepared to say.

In etherizing a patient we pour upon this sponge within the inhaler as much ether as it will hold; applying the mouth-piece over the mouth and nostrils of our patient, holding it close or loosely as the case seems to require—known by the ether being breathed freely, or exciting coughing. We have our patient breathe lightly a moment or so, afterwards long and deeply; by the first we escape irritation of the air passages, while by the pursuance of the second we get quickly over that intervening excitable state too apt to show itself; indeed, at times we have scarcely a moment to remark it. This speedy exhibition of the agent in its full strength, will, we think, be found the most successful manner of its administration, as we believe the pursuance of a contrary course is the explanation of the unsuccessfulness of many of our fellow practitioners, for, as one author quoted in our addenda remarks: "It is possible to inspire three, four, nay ten times the quantity of ether capable of producing sleep without this state being produced." And how simple the explanation. There is quite as much oxygen as ether inspired. As a moderate drinker is seldom drunk, always half drunk—as an inveterate drunkard seldom remains long in the intermediate state, so the ether patient, accordingly as he is moderately or plenteously supplied.

We endeavor to etherize our patient in consideration of the length of time the operation will demand, not deeming it necessary to carry him to the same state for the simple operation of the extraction of a few teeth as for the amputation of a limb.

Trusting a good deal to the presentments of the eye, spoken of in a previous paper, we depend as much, and in an advanced condition, more to the breathing of the patient. While this continues natural and easy, we apprehend there is little to fear, but the moment it becomes labored, we proceed or recede cautiously. For the extraction of a tooth, it may be a habit we have gotten into, but we generally find ourselves testing the exact condition of our patient by sundry continued pinches of his flesh. When unflinchingly he bears this, we argue analogously he may bear a good pull, and generally find ourselves correct in the conclusion. We suggest this last, as followed, it secures the young experimenter against the possibility of effecting the centre of the respiratory nerves.

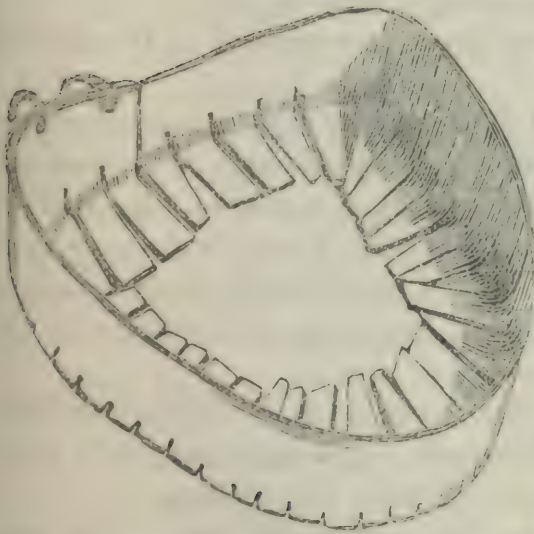
Before commencing the exhibition of the agent, we should have remarked, as we deem it of great consequence, we close our office doors and sash, excluding as much as possible fresh oxygenated air; the desired action is thus more readily secured, and from the limited amount of ether inspired, entire safety is, we think, surely secured, for

without experiment, few would believe the small quantity of ether required to narcotize a person in a close room, compared to a situation in the open air. The moment an operation is completed the office is thrown open and all the fresh air at our command wafted around the patient.

We might be asked, "What if the patient should not satisfactorily revive?" A very proper question—one, indeed, that few might not consider and reconsider with advantage.

Up to this moment, and we administer ether almost every day, we have fortunately had no demand upon our shelf of restoratives, and we flatter ourself that care and extreme caution will make no such demand necessary in the future. But we think we would rely strongly upon cold water for a desired reaction, artificial respiration, or the pursuance of a course which should raise the glottis by a sickening of the stomach, acting according to the presentment of the case. Mr. Robinson, whom we previously quoted, suggests that every operator should have in his surgery, ready for use, a galvanic battery. The application of one pole opposite the region of the heart, and the other to the corresponding part at the back or at the extremities, so as to send a current through this region, will, he says, be found a powerful stimulant, often more serviceable than diffusible stimulants, even presuming the patient to possess sufficient power to swallow them.

SPRINGING OF PLATES.



EDITORS OF THE DENTAL NEWS—*Gentlemen*:—Many of the profession have got tired of that everlasting subject, *the Springing of Plates*, and I have for one; the reason of which is, that it is a subject which is, to me, entirely devoid of *interest*. It is now more than two years since I have had a plate spring a particle. In soldering whole or parts of sets, I feel absolutely certain that

the case will not undergo the least alteration from the *operation*. The result may be relied upon.

My method is this: After the teeth are fitted to the plate, I take a

strip of copper, from one inch and a quarter in width, and about No. 23 of the gauge in thickness, and wrap it round the case, allowing the copper to come within one-eighth of an inch of the teeth; I then cut it off so that the two ends may be fastened; this is done by punching a hole in each end of the copper and then putting through a piece of iron, copper or platina wire, and twisting the ends. Before fastening the ends of the copper plate, however, I cut into it on one side, making a sort of fringe, leaving the strips about one-eighth or three-sixteenths of an inch in width. Either the whole or a part of every third strip is cut out. Now fasten the ends of the copper plate together, making the shape to correspond with that of the case; then turn the "fringe," with a pair of pliers or otherwise, inwards, at right angles, thereby making a sort of cup just deep enough for your case to set in, without having the cutting or grinding surfaces of the teeth above the upper border of the copper plate."

Put the "case" into the "cup." Mix plaster and sand very thin, using very little plaster, and pour between the teeth and the sides of the cup. If the teeth and the inside of the cup are oiled, the plaster will run more freely. Put not a particle of plaster either on the lingual or palatine surface of the plate. After a few moments the wax may be removed and the teeth backed, if it has not already been done. I prefer to back them after they are put into the "cup." Some one of the teeth may always be easier removed from the plaster than the rest, and after that is out there is no difficulty in taking them all out. I never put any plaster on the cutting or grinding surfaces of the teeth. The depth of the cup may be enlarged or contracted by altering the position of the "fringe."

Five minutes, on a charcoal fire, suffices to dry the case sufficiently for soldering. Owing to the small quantity of plaster, &c., to *heat up*, the operation of soldering is but the work of a moment. Every piece of work that I solder, no matter how small, I treat in the same way.

I always use 20 carat gold. How a poorer quality would answer, I do not know, but I think one would be equally as successful with 18 carat, so far as warping is concerned.

I sincerely hope that every dentist who is troubled in the least with warping of plates, will try this method. It is simple, and can be tried in less time than it has taken me to describe the operation.

I send you a "cup" which has been used several times. After one has a dozen cups on hand, he will rarely need to make a new one.

Very truly yours,

H. S. CHASE, M. D.

Woodstock, Vermont.

MANAGEMENT OF LIGHT IN THE PERFORMANCE OF DENTAL OPERATIONS.

BY J. H. M'QUILLEN, D. D. S.

(Continued from page 229.)

In the course of a recent conversation with a fellow practitioner, he remarked: "Ten years from now you will find it necessary to operate by a stronger light than the northern."

With the best reasons in the world for doubting the correctness of this assertion, I am willing, for the sake of argument, to suppose his position to be a tenable one, and then, in reply, would ask whether it is any more advisable to at once adopt the intense and variable southern light, than it would be for those persons who are compelled to use spectacles, to have lenses of the highest power introduced in the beginning; because, convinced that, at some period in life's journey, it will be necessary to employ them, to secure perfect vision.

The premature adoption of either would, under such circumstances, but become an additional cause in impairing the usefulness of the organ.

Dr. Kitchner, in his "*Economy of the Eyes*," says, that he was about fifteen years old when he first discovered that he could not discern distant objects so distinctly as people who have common eyes usually do. "Seeing," he remarks, "that I could not see what persons with common eyes frequently pointed out to me as well deserving my attention, I paid a visit to an optician, and purchased a concave eye-glass, No. 2. After using this some little time, I accidentally looked through a concave No. 3, and finding my sight much sharper with this than with No. 2, had my spectacles glassed with No. 3, which appeared to afford my eyes as much assistance as they could receive. After using No. 3 for a few months, I chanced to look through No. 4, and again found the same increase of sharpness, &c., which I perceived before, when I had been using No. 2 and first saw through No. 3, therefore concluded that I had not yet got glasses sufficiently concave, and accordingly procured No. 4; however, this soon became no more stimulus to the optic nerve than its predecessors, Nos. 2 and 3, had been. I then began to think that the sight was subject to the same laws which govern the other parts of our system, *i. e.*, *an increased stimulus, by repetition, soon loses its power to produce an increased effect*. Therefore, I refused my eye any further assistance than it received from spectacles glassed with No. 2, which I have worn for upwards of thirty-one years, and it is very nearly, if not quite, as sufficient help to me now, as when I first employed it."

In large cities where the owners of property care more about taking

advantage of every foot of ground for building purposes, than they do about the proper ventilation of, and introduction of light to the tenements they erect; the Dentist, though possessing an excellent northern light, frequently, if not invariably, finds the limited ground back of his office, hemmed in on two, and sometimes three sides, by back buildings two stories high. The red light reflected from the surrounding brick walls into the room, is a source of annoyance to the operator on account of its being an unnatural and cross light, to that which is transmitted from the sky, and thus impairing its purity and usefulness.

To overcome this difficulty, an intimate friend had a portion of the wall of his back building, and the side of a house, in the rear of the lot, painted green. Though this is preferable to the red brick, a less decided color would be more attractive to the eye, at the same time that it is better adapted to the purpose.

Those quiet shades, called by artists neutral tints, such as drab, grey, fawn, or brown, seem to me to be the most appropriate colors that can be selected. The window shutters, and fence separating the yard from the next door neighbor's, should be painted of the same shade as the walls. White, the usual color, is, without exception, the most objectionable one that can be used.

This plan is the best one to pursue, where it is impossible to have the walls covered by an ivy. Even where the latter is admissible, these shades could be applied so as to obviate the reflection from the red bricks, until such time as it shall have grown sufficient to cover the entire wall.

The property possessed by the vegetable kingdom, of *absorbing* a large portion of light and *reflecting* very little, makes the ivy the most desirable covering that can be obtained for the walls. At the same time that it is much more pleasant to look at than bare bricks, the eye of the patient can rest upon it during the entire sitting, without a sense of fatigue; the associations connected with it, likely to spring up in the mind, carrying the thoughts far from the unpleasant operation submitted to, it is not necessary to dwell upon.

Three different kinds of ivy have been shown to me by gardeners with whom I have conversed on this subject. They are the American, European and Giant. Of these the former is the most luxuriant and rapid in its growth, but owing to the falling of its leaves in the autumn, it is not adapted to our purposes. The European or Evergreen will grow in shady localities, and retains its dark green foliage throughout the entire year; its growth, however, is quite slow. The Giant ivy, on the contrary, grows rapidly, is much more vigorous, and

possesses a larger and richer leaf, which is also retained at all seasons of the year. These advantages make it the most desirable one that can be selected to overcome the difficulty in question.

The objection that is urged against the ivy, of ruining the wall to which it is attached, is without foundation: it is, on the contrary, a preservative. And as an evidence, I would cite the time-honored ruins of England, that are overrun by it.

In conclusion, I offer the following suggestions, as being worthy of some attention.

When operating upon cavities situated in the palatine surface of superior incisors and canines, and the posterior approximal surfaces of molars or bicuspsids, either in the upper or lower jaw, every operator has no doubt frequently found some difficulty in getting sufficient light on the surface demanding attention, to obtain a perfect view of the cavity, owing to the shadow cast by the tooth operated on. The *stronger* the light, the more decided the *shadow*. To obviate this, when operating on the upper front teeth, I have found a small piece of white muslin, folded so as to cover the tongue, but not protrude from the mouth, of decided service. The light striking upon the muslin, is reflected to the palatine surface of the teeth, and defines the margins of the cavity perfectly. If the cavity is situated in the posterior approximal surface of a molar or bicuspid, a still smaller piece of muslin, held in place by the forefinger back of the tooth operated on, will reflect sufficient light to give a perfect view of the cavity.

To prevent abrasion of the cuticle at the corners of the mouth, it was my habit for years, as it has been that of many operators, to protect the skin, by napkins, from coming in contact with the shaft of the instrument. For the last three years, however, I have discontinued the practice, from a conviction that the maintenance of such a course would be subjecting my eyes to a most injurious influence.

Owing to the napkin being white, none of the rays of light that fall on it are *absorbed*, but all are *reflected* directly into the eye of the operator.

It is quite common for seamstresses to complain of a sense of weariness and pain in their eyes, after they have been engaged continuously for two or three weeks on white work; and it is not an unfrequent occurrence, that they are compelled to seek the advice of the oculist, to obtain relief.

Though the surface of white offered to the eye of the dentist, is quite limited, yet, like water falling drop by drop on the stone, it will eventually make a perceptible impression.

I will acknowledge candidly, that I am not sufficiently of a self-sacrificing nature, to be willing to spare my patients a slight and *temporary* excoriation of the cuticle, at the risk of inflicting a *permanent* injury on my eyes.

These objections will not bear against the use of the muslin for throwing light into cavities, described above. That is only required occasionally, whereas the napkin is used continually.

LOCKE'S CASTING APPARATUS.

EDITORS OF NEWS LETTER:—*Gentlemen.*—Agreeably to the request contained in your note of the 6th inst., I herewith send you a brief description of the "Casting Apparatus," and the manner of using it.

The accompanying patterns, &c., &c., will aid you in getting any "cuts" prepared which you may deem necessary.

I am very respectfully and truly yours,

JAMES LOCKE.

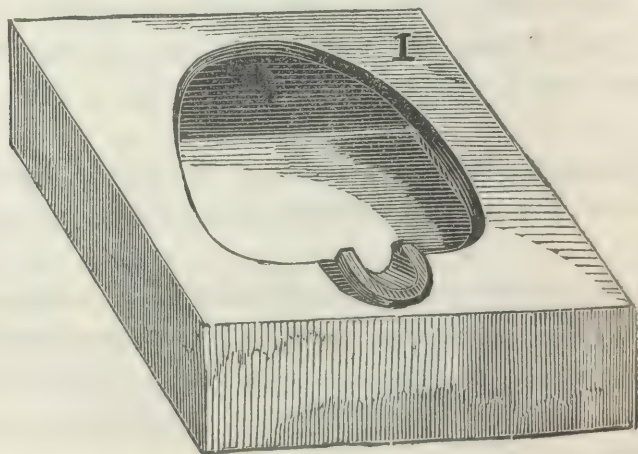
Williamsport, Pa., Sept. 18th, 1855.

The casting apparatus consists of two sets—one for getting up dies for the upper plates, and the other for lower ones.

These two are precisely the *same* in *principle*, and differ only in size and in one or two other trifling respects. A description of one of these sets, therefore, will be deemed sufficient for the present occasion.

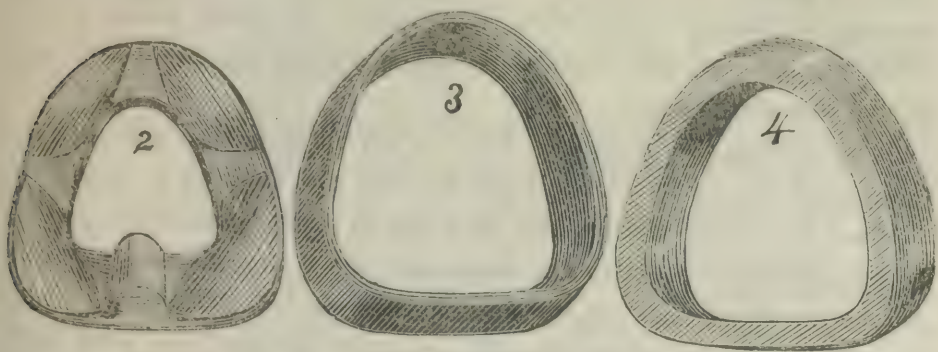
Each set is composed of—1st, moulding flask; 2d, follow-plate, (as moulders call it;) 3d, die flask; 4th, counter-die flask.

These are all made of cast-iron, but can also be made of brass, if desired.



No. 1, moulding flask for upper set, is nearly square, with a large opening in the top to correspond perfectly in size to No. 2, as well as

to the base of Nos. 3 and 4. It also has a cup-like cavity in the top for the purpose of pouring metal in.



No. 2, follow-plate ; is a light, frame-like structure, with a circumference to correspond to the size of the opening in the top of the moulding flask. It has a flange around the outer edge, which leaves an impression in the sand for the base of No. 3, also an opening in the middle for the purpose of adjusting it to the impression and securing it to the plaster cast.

No. 3, die-flask ; is open at each end, circular ; has a base to correspond to the size of the opening in No. 1, as well as to the flange on No. 2, and diminished from the base $2\frac{3}{4}$ inches diameter to about $1\frac{1}{2}$, thus giving the die a conical shape, and consequently not so liable to *till* under the hammer.

No. 4, counter-die flask ; is same height as No 3— $1\frac{1}{4}$ inches—and corresponds to it in every particular, excepting that it is not so conical, thus affording the counter-die a greater diameter of base.

In regard to the lower set, as has already been said, a larger size* is necessary, and the follow-plate differs nearly as much as a lower impression-cup differs from an upper one.

The opening, instead of being in the centre, is near the outer edge, corresponding to the alveolar depression in the impression. Its curves, too, must be the reverse of those in the upper plate.

In using this apparatus the following order may be advantageously observed :

After preparing the impression in the usual way, and after removing any very high portions of the margin, fill up to the level of sides with

* The size for the lower set should be made just enough larger than the upper, so that all the flasks of the upper set shall pack into those of the lower. This arrangement, in addition to securing the most convenient size, will be exceedingly convenient in facilitating their transportation, particularly as no dentist would think of having less than *two sets*, if he gets any at all.

plaster, then adjust the follow-plate carefully on it, observing to adapt centre to centre, and see that it lies level and immediately in contact with the sides of the impression; the palate may even extend into the opening in the upper ones when it is high; this done, put in a little more plaster, but only enough to fill perfectly the impression, and secure this plate to it.

After setting and removing, there is but little to trim and varnish; then adjust the cavity piece, if you use any, and proceed to mould.

Place the follow-plate, which now has on its face the entire pattern of all you want—the alveolar ridge and palate—on a board, and then set the moulding flask, upper side down, over it; the opening in the top will just fit this plate; then fill and pack the sand, and *pack well*; a few light taps on the side of the moulding flask will usually leave the plate, with the plaster cast attached, where it was placed; if still in the sand when the flask is turned up, proceed to draw in your favorite manner. Then place No. 3 into the impression made by the flange of the plate and fill in the metal, pouring first into the cavity on the top of the box, which will fill the bottom of the impression without displacing, in the least, the sand; then fill in the balance into the top of No. 3.

After turning out and cooling, cut off with a chisel the small protuberance on the back part of the die, and prepare in the usual manner for the counter-die; when ready, place flask No. 4 on the face of the die and pour in the metal.

This mode of procedure does *not* interfere in the least with any of the different modes of taking impressions, nor with any favorite metal or compound for dies, each one, in these respects, being left entirely to his own choice. It simply applies to the getting up of the plaster cast and dies. It will be seen at a glance that it saves nearly all the trimming; that it takes but little plaster; that the part moulded is only from three-fourths to an inch in depth, and consequently can be moulded with much more facility, which, when added to the advantage gained by the cover over all the sand except the impression, we are safe in saying that, as a general thing, more perfect dies can be procured by this than by any former process.

The object of the casting apparatus, then, is to get up the plaster cast die and counter-die, in the *shortest time*, with the *least material* and combining the *greatest* amount of *strength* and *convenience*, thus making them *much more effective* in accomplishing the objects for which they are intended.

For the Dental News Letter.

ADJUSTING LOWER PLATES.

MESSRS. EDITORS:—I have often wondered why it is that we have so much said and published in reference to the best manner of adjusting suction plates for the upper jaw, whilst the lower jaw is seldom ever so much as even hinted at.

The reason why I am surprised at this is owing to the fact, that the under jaw gives me five times as much trouble as the upper. I very seldom construct a plate for the under jaw, (even after taking all possible pains,) that I can get to stay down sufficiently firm to be used in mastication without using springs. I sometimes try to form chambers, but it appears to be almost impossible to form a chamber over a ridge not more than one-fourth of an inch deep, and the margin about as thin as a knife-blade. But, notwithstanding this (to me) insurmountable difficulty, I understand that many of our first class dentists never use springs in any case.

I have spent many sleepless hours thinking on this single subject. Will the correspondents of the News Letter, please give their experience on the subject. Will the *Editors* please say a little for the instruction of

A SUBSCRIBER.

REMARKS ON THE ABOVE.

The above is a very interesting inquiry, and we can give but little satisfaction on the subject of which "a subscriber" treats. We never have attempted to make chambers on the lower jaw, nor do we think it would be of any service, for reasons given by the writer, and the constantly changing character of the gum. We have seen "*loaded*" lower sets of teeth to cause them to stay down to the gum, by their great weight, but what we consider the most important matter, is neglected, in reference to lower plates. *A lower plate must be cut narrow enough to fall between the loose integuments of the cheeks, lips and floor of the mouth*, so that the motion of those parts shall not loosen it. When speaking or masticating, if a plate be any wider than the hard part of the alveolar ridge, *that* much of it should be lifted up all round the inner and outer border of the plate, by laying a sheet of wax on the plaster model before making the metallic cast; especially opposite the insertion of the muscles near the mental foramina, and the frænum of the tongue. This precaution also prevents those parts from becoming cut by the friction or pressure of the plate. We have known a great many dentists to fail for want of this precaution in giving satisfaction, either in comfort or usefulness. If a

patient can raise the tongue upwards and backwards, and extend it out a little way beyond the lower set without lifting the case from its place, it will stay down. It is frequently true also, that the sub-maxillary glands swell up along side of the alveolar ridge so closely as to constantly be getting under the edge of the plate and dislodging it. Habit and perseverance, however, when these precautions are observed, is necessary on the part of the patient. We would be pleased to have suggestions from correspondents on this subject. J. D. W.

For the Dental News Letter.

CASE OF CHOREA CURED BY THE EXTRACTION OF EIGHT TEETH.

BY DR. T. J. VILLARD.

Messrs. Editors:—I was called upon while in practice in Georgetown, District of Columbia, by Dr. J. A. Ritchie, a practitioner of medicine of some note in the District. He wished me to see a case of Chorea; he, at the same time, thinking it proceeded from pressure on the nerves of the face. I examined the case, and found a young lady, Miss L., suffering greatly from what is commonly called St. Vitus' Dance. Dr. H. Magruder, a physician of high standing, was also called to witness the operation, by the consent of the family. I found several stumps in both jaws, the gums entirely covering some of them, and on pressure of the same, I caused her great pain, and pus exuding upon the slightest pressure. I also noticed by the slightest touch with a hard instrument, she would have a paroxysm most painful to witness. She would loose all control over herself and drum on the floor with her feet, when in a sitting position, loud enough to be heard a distance of fifty yards. She would also distort her features, and it was indeed impossible to keep her still for a single moment. I proceeded to give her ether, and it took a double quantity to make her insensible of pain. I then took out eight stumps and some small pieces of dead alveoli which had caused a continuous irritation of the parts. I will mention that the gum had grown over some of the stumps and hid them entirely from view. There was a great discharge of pus when I made the incision, which was quite offensive. I visited her several times, and gave her from the first an astringent wash for her mouth. She commenced from that day to gain strength, and the paroxysms grew less frequent. I have the pleasure now to announce to you that she has recovered her usual health, and all appearance of her former tormenting disease is gone. I neglected to tell you that the case happened in December 1852, and since that time I have seen the young lady often, and feel proud of my success.

EXTRACTION UNDER THE INFLUENCE OF ETHER IN A
CASE OF DISEASE OF THE HEART.

Messrs. Editors:—If you think the following worthy of a place in that welcome messenger to the studio of every intelligent dentist, the Dental News Letter, you can publish it; it may interest many and be a benefit to some.

Mr. O—, a young man of about twenty-eight years of age, called upon me to consult in reference to an inferior molar tooth, which was very much decayed; he stated that it would get extremely sore, two or three times every year, for the last four years, and that he never had courage enough to have it taken out. On examination, I found that one side of his tongue and almost the whole of one side of the mouth, was covered with superficial ulcers, with such an inflamed condition of all the surrounding parts, that the sub-maxillary bone had become almost immovable, and in order to prevent it from becoming entirely so, I advised the removal of the offending tooth, as the only remedy; this he would not consent to, unless I would give him ether: Notwithstanding he has had disease of the heart for the last five years, I gave him a sponge containing some ether, with directions how to take it; at the same time I had a finger over the radial artery, in order to notice if there would be any change in the action of the heart. At first there was two or three flutters, this I attributed to fright on the part of the patient, for in a short time its normal action was restored; I then took the sponge and in a short time anæsthesia was produced, when I removed the tooth. The ether soon went off, and the result was, as in all the other cases that I have had, as satisfactorily as I could have wished. In this one particularly, the result has been more than we dared to anticipate. He says that he is much benefited by taking the ether. For some days before he was troubled with what is called palpitation of the heart, which has not been the case since. I would remark, in conclusion, that in my experience, I find that the successful result of inhaling ether for surgical operations, depends upon the state of the mind of the patient in reference to the final result, and that there is no disease in which I would be afraid to administer it, provided, the mind of the patient was entirely free from all prejudice or fear in reference to its results, in his or her individual case.

D. S. HUTCHINSON, D. D. S.

Hollidaysburg, Pa.

THE DENTAL NEWS LETTER.

OCTOBER, 1855.

AMERICAN DENTAL CONVENTION.

We must say a few words in reference to this association, expressive of our great gratification at the success of the movement.

There never has been as large and as harmonious a meeting of the dental profession in this country as this proved to be.

We had our fears that the enterprise would not succeed—indeed we were not prepared for such a demonstration, and consequently we have been most agreeably disappointed, and we now firmly believe that the Convention will be a permanent institution; and that it is well calculated to do much good none can deny; (witness the proceedings as reported in our present issue.)

One writes us: “I believe our Convention gave great satisfaction to all who participated in it. For my part I feel several years younger, with corresponding ambition to work for the good of the cause.”

Another says: “I should certainly feel like saying something expressive of the gratification I derived from it, in common with all whom I heard express themselves on the subject.”

And still another: “I feel like setting about the work with renewed energy.” And in conversation with many, the utmost enthusiasm was manifested, and but one expression, that of satisfaction that the experiment had been made, and a strong belief that the enterprise was eminently calculated to bring about the harmony and concerted action, so long and so earnestly desired, and to awaken that spirit of energy and emulation which gives power to a cause and character to a profession. We rejoice, therefore, at the success of this movement, and would urge its claims upon the attention of every practitioner.

We append a paragraph, taken from one of the daily papers, which we can fully endorse.

“Altogether this Convention has been the most important meeting of scientific men ever held in this country, and probably the largest meeting of dentists ever held in the world. The good which such assemblages must have upon the comfort and well-being of the people at large cannot but be apparent to all. The importance of faithful

and skillful operations upon the teeth must be acknowledged, and in no way can the public be so well secured from quacks as by such interchanges of experience as has been made during the sessions of this Convention. The experiment has become a success, and we may look for the tangible evidences whenever our necessities place us in the dentists' hands."

J. R. M'C.

Not Professional, but Somewhat Personal.—We have enjoyed for the first time, the pleasure of a visit to the Falls of Niagara, and we have been more than gratified.

A friend, in whose company we had visited Europe, suggested that we might be disappointed, which suggestion may have had some weight in lessening our expectations, but we really cannot see how any one could be reasonably disappointed.

We viewed the falls from the various stand points and endeavored to obtain the full effect of their extent and grandeur by examining in detail, and then as a whole, the startling effect of which was electrical, and we feel that no man,—no American at least should postpone seeing this stupendous, this wonderful work of nature. Not to have seen the falls is to have seen nothing; as they overshadow everything of that kind in nature, and like Mahomet to the mountain, so we say, that as the falls will not come to us, let us go to the falls. Now, all, to be sure, cannot go, from inability, but if we were in the councils of the nation, we would cheerfully vote that Congress should expend a portion of the surplus revenue in sending every such one there, that they might behold this wonder and rejoice in the remembrance—

"A thing of beauty, a joy forever."

But, seriously, we would use what little influence we may possess in inducing all who can appreciate the works of nature to go to the falls, for by neglecting it they know not how much they lose.

"Flow on, forever, in thy glorious robe
Of terror and of beauty. God has set
His rainbow on thy forehead, and the clouds
Mantled around thy feet. And He doth give
Thy voice of thunder power to speak of Him
Eternally—bidding the lip of man
Keep silence, and upon thy rocky altar, pour
Incense of awe-struck praise."

From the Falls we pushed on down the Niagara river to Lake Ontario and down the Lake to the river St. Lawrence, and down the St. Lawrence through the rapids to Montreal, and from Montreal to

Quebec by railroad, visiting all the objects of interest at the various points, not overlooking the pretty little Falls of Montmorency near the latter city—a mimic affair to be sure but interesting by contrast with the great falls—thence home by the way of Lake Champlain to Saratoga, Catskill and West Point, etc.

In the various places we passed through, we observed the names of many dentists with whom we are familiar, but for want of time could make no calls; this we regret, but could not help; it shall not so happen again. We hereby tender them all, our best respects. J. R. M'C.

Sixteenth Annual Announcement and Catalogue of the Baltimore College of Dental Surgery, Session 1855 and '56. Fourth Annual Announcement of the Philadelphia College of Dental Surgery, Session 1855 and '56.—We have received the above announcements, which indicate renewed efforts on the part of both schools to meet every want of the dental student. The opportunities they offer for a thorough dental education are of the most satisfactory character; and they should receive, as they richly merit, the hearty co-operation of every practitioner, and the encouragement of large classes.

The Cincinnati school is, we presume, alike amply prepared to meet the requirements of the great West. J. R. M'C.

Dr. Townsend's Lithograph.—We have been favored with a lithographic likeness of this gentleman which we consider remarkable for its faithfulness.

It has been gotten up by a few of the friends and admirers of the original, and does them, as well as the artist, great credit. J. R. M'C.

Condensation of Gold in Plugging.—We would respectfully inform our readers, that on account of a press of interesting matter from our contributors, and conventional proceedings, we are compelled to defer a continuation of our experiments in the condensation of gold in plugging, to the next issue. J. D. W.

Dental Practice For Sale.—We would call the attention to two advertisements on cover offering for sale, one, a practice in Philadelphia, the other in Woodstock, Vermont. They both offer advantages to persons desirous of securing practices already established.

See Cover for various business notices worthy attention.

OBITUARY.

My brother, JOHN WESLEY SHEPHERD, was born in Nelson county, Virginia, March, 1817. In the fall of 1834, being then 17 years old, he removed with my father and his family to the State of Ohio. At this time I had just entered upon the study of *dentistry* in my native State, Virginia, where I remained, completed my studies, and commenced practice in Petersburg. John in the meantime grew up, returned to Virginia, and entered my office for the purpose of obtaining a dental education—there being then no public institution for teaching dentistry. As a student, he applied himself with diligence, and in a comparatively short time was well qualified to commence practice, for which he showed a strong inclination. He exhibited in his early practice an amount of skill and thoroughness in his operations which is rarely met with in those just entering professional life. In 1847 he married a lady in the county of Caroline, Virginia, whose family and family connections were numerous in the county, and whose influence might be turned to his account in the practice of his profession. This and other circumstances induced him to locate in Caroline. There he set himself vigorously to work to establish, not only himself, but a sound public sentiment in relation to the science of dentistry. To the latter it was needful that he should address himself with a bold hand; for the tyro and impostor had traveled over the ground before him. The people, however, were intelligent, and able to comprehend sound doctrine. Here, although in comparative obscurity, he was a liberal patron of dental literature, and kept himself well posted in relation to the advancement of his art. He took great interest in everything new that appeared in the dental publications from time to time; and although not a contributor, it may be gratifying to those who were, to know that he was a deeply interested beneficiary.

While in the State of Ohio, and a short time before he left for Virginia, he had an attack of *bilious* fever, from which he narrowly escaped with his life. There is ground for reasonable conjecture that the seeds of consumption were then planted, where they continued to take root, until he finally fell a victim to that insidious disease. He was rarely free from uneasiness in his breast from the time of his recovery from the attack above referred to. During the last two or three years of his life the trouble in his breast became more afflictive—sometimes confining him to his bed for several days. Six months before his death he had so far lost his physical strength as to be unable to go out.

From this time he rapidly failed, until, on the 7th of February last, he yielded up his spirit to God who gave it, in the 38th year of his age.

John was not only zealous in matters pertaining to his profession, but he was a christian. He embraced the religion of the Bible in the days of his childhood, and the Bible was his *chief* book. In his death, as well as his life, the consolations of the Gospel were abundantly manifested.:

S. M. SHEPHERD.

Obituary.—Died, in Cooperstown, N. Y., of chronic disease of the stomach and lungs, Dr. J. M. PEAK, in the 48th year of his age.

To a letter just received in reference to deceased, we are indebted for the following items of his life:

Dr. PEAK was born in Boston, and at the age of 14 removed with his parents to New Hampshire, and in 1824 removed to Otsego county, N. Y., where, after teaching several years, at the age of twenty-one commenced the study of medicine, completing his course at Fairfield Medical College, N. Y., in 1831. He also attended a separate course in the science of dental surgery, and connected himself with the practice of dentistry the subsequent year, and removed to Cooperstown in 1832, being the first resident dentist of that place. He remained here in full practice, in both medicine and dentistry, for eight or ten years, when his health failing, he was compelled to curtail his practice, and, in 1854, was obliged to suspend his labors entirely. He continued to grow worse, until the disease from which he suffered, terminated his life, August 8, 1855.

“He died most happy, perfectly conscious until the last moment, and having no fears of the future, but desiring every day might be his last, that he might be with Him in whom alone he trusted.”

From our own acquaintance with the deceased, we can say, we found him always honorable in all his dealings, and enjoying the reputation of a skillful practioner in both professions. His loss, doubtless, will be greatly felt.

J. R. M'C.

The Diseases of the Human Teeth; their Natural History and Structure, with the mode of applying Artificial Teeth, etc. By JOSEPH FOX and CHAPIN A. HARRIS, M. D., D. D. S., with two hundred and fifty illustrations. Philada., Lindsay and Blakiston.—Of this book, with which the profession are to a great extent familiar, we need only say that the American editor has added greatly to its value, and that his connexion with it must give confidence as to its worth. It is deserving a place in every dental library.

J. R. M'C.

ITEMS.

Peculiar Effect of Chloroform.—Dr. E. H. Clarke mentioned a case, which occurred in the practice of another physician. A girl, twenty years old, inhaled chloroform for the purpose of having a tooth extracted. She recovered apparently from its influence, and walked home the distance of a quarter of a mile. Her conversation was, however, incoherent, and her gait unsteady. Soon after reaching home she became paralyzed, losing both sensation and the power of motion. The skin was cold and pale; respiration *saccadic* and the pulse feeble; no rigidity of the muscles. She came out of this state, and then became furiously insane, together with which were constipation and deficient secretion of urine. This condition of things lasted from a week to ten days, and then her usual health returned.—*Boston Medical and Surgical Journal*.

Cancrum Oris Treated by the Application of Nitric Acid.—A case of cancrum oris has just occurred in St. Bartholomew's Hospital, under the care of Dr. Baly, which has well illustrated the usefulness of the application of the strong nitric acid. The patient was a boy, in whose left cheek the phagedenic ulceration commenced during recovery after scarlet fever. The internal use of chlorate of potassa was first tried, and persisted with, in ten grain doses, for several days, the disease meanwhile being unchecked. A single free application of the concentrated acid was then made to the part, and with the effect of completely arresting the morbid action. The induration of the surrounding part has since gradually subsided, and the sore is now almost healed. The case, although not one of the most acute class, was yet of a character sufficiently alarming.—*Medical Times and Gazette*.

Anodyne Cement for Rendering Teeth Insensible to Pain.—Mr. J. P. Clark, of London, with the object of rendering diseased teeth insensible to pain, previous to the operation of stopping them permanently with metal, or filing away the carious parts, recommends the application of a paste, composed of Canada balsam and slacked lime, which is to be inserted into the hollow tooth like a pill. Mr. Clark states, that this preparation affords immediate relief in all but chronic cases of inflammation. He says:

“If fresh pills be inserted as often as the old ones wear out, or are removed on the return of pain, in order, like an abscess, to allow the escape of matter or blood, and this practice continued, the teeth will become as insensible to touch as the soundest, and may then be permanently stopped, and otherwise treated in the usual way without the infliction of pain.”—*Dublin Hospital Gazette*.

Hemorrhage from Leech Bites.—Lastelle, in the *Reportoire de Pharmacie*, suggests the use of the carbonate of iron in obstinate hemorrhages from leech bites, and states that it is very effective.—*Med. Chronicle, Montreal.*

A right smart Yankee presented the other day another specimen of national characteristics. He arrived in Paris with a box of artificial teeth of his handiwork. He wished to put the teeth on exhibition at the Crystal Palace; so he took them to the Palace, walked past the soldiers and police who guard the entrance, picked out a spot that suited him and deposited the box, then saw what he wanted of the building, and came out. As he told the story, a gentleman asked him if the guards did not make objection to his entering? He thought it quite likely they did, but he could not understand them. It is unnecessary to add that our ingenious countryman is as ignorant of French as though he had been sent on a diplomatic mission. * * *

Apropos of balls and soirees—though not *apropos* of such—I must give a word to Messrs. Fowler and Preterre, two skillful American dentists, likely to rival (in everything but rate of fees) our other countryman, Evans, who “inaugurate” their elegant establishment on the Boulevards des Italiens by a soiree this evening, which has been the topic of American talk here for the past two weeks. Several American ladies have taken the lucky dogs (they are bachelors) under their protection for the nonce, and will secure to the ball the grace and charm that customarily preside in their own hospitable salons.—*From the Paris Correspondent of the N. Y. Tribune.*

New Astringent in Local Hemorrhage.—Pure glycerine will dissolve nearly its own weight of tannin, and forms a very powerful local astringet application, the strength of which may be graduated as it readily mixes with water. This solution is applicable to the many affections of the mucous membrane, as it combines with the mucus and forms a non-evaporizable coating over the membrane.—*Bayer. As. Med. Journal.*

Gambling to the Teeth.—The San Antonio (Texas) Ledger relates the following incident as having recently occurred in that city: “We are told that an individual in our city, a few nights ago, being put to for stake, took from his mouth a finely polished set of teeth on a gold plate, and pawned it for a few dollars to continue the game with. We have heard of ‘fighting to the teeth,’ but never before heard of gambling to the teeth!”

THE DENTAL NEWS LETTER.

VOL. IX.

PHILADELPHIA, JANUARY, 1856.

No. 2.

ON THE PARISIAN DENTAL EXHIBITION.

For the Dental News Letter.

BY AN EYE-WITNESS.

While the roar of cannon and party strife are being enacted in one part of Europe ; whilst the sword is carrying out the ruthless mandates of some potentate, one of these, at least, has not forgotten, amidst the turmoil and strife, to erect in his dominions a building devoted to the emblems of peace and industry ; and although it must be admitted the time and place has been judiciously selected, the contents of the Colossal Bazaar falls short, in dental matters, when compared with those exhibited in England in 1851. It is true there are many valuable inventions and improvements in almost every department, excepting the one we feel most interested, and to which, of course, it is not our intention further to refer. There are, also, a superabundance of surgical instruments, such as amputating knives, saws and such like ; but we strained our very optics, saying nothing for our legs, in endeavoring to discover the *locus standi* in which the *pure* dental instrument maker exhibited his wares. We looked in vain for the splendid collection of "Chevalier," of New York, of "Weiss," &c., of London ; in fact, there was comparatively and absolutely nothing, either native or foreign, which could in justice be said to represent dental instruments. With only one exception did we alight upon any of the modern improved forceps with adjusted beaks. At this surgeon's instrument-maker's stall, we discovered a few scaling instruments ! With the above exception, the remainder of the forceps had all roughed beaks, intended, *no doubt*, for extracting teeth ; but might just as readily have been supposed to be a new fashioned boat hook. We ventured also to ascertain whether at any of these stalls, pluggers, excavators, &c., or any resemblance to these useful articles to the practical dentist were to be found ; our industry, however, was not attended with success. We may then fairly assume, that such instruments are not much in request by our brother professionals in France. The home manufacture of artificial dentures are numerous repre-

sented in every department, and, if we may judge from the "show," the French dentists are up in this department, whether they are so happy in their mechanical adjustment to the mouth, is a problem to be solved by their patients. Several specimens of porcelain teeth and block work were exhibited, more or less advancing to perfection—an extraordinary coincidence considering the French were the first to introduce porcelain teeth. There is also a very ingenious application, well worthy of consideration, a small hand machine for carving teeth in bone, fitting sea-horse blocks to casts, &c. This carving machine, if we remember correctly, was invented and patented by Mr. Jourdan, of the Strand, London. After its introduction for ornamental carving, Mr. Tomes applied it to the purposes of fitting bone blocks to casts, carving teeth, &c., for which privilege we believe he had to pay the original inventor a certain stipend or royalty. The machine at this exhibition is very simple and worked by the foot, similar to our common lathe.

In the preceding remarks we have directed attention to those articles "exhibited" and "wanting." In our subsequent observations we will endeavor to particularize the various articles according to their numbers and classification; but, from the imperfect arrangement and the difficulty experienced in finding them, it is possible some few might have escaped our notice. Our readers must remember the same confusion occurred at the London exhibition, in the dental department: but, in reference to the latter, a gross and deliberate injustice was done to the exhibitors, for after all the expense, trouble and time expended in producing the articles exhibited, the "sapient judges," who were selected to report upon surgical mechanical instruments generally, forgot (a convenient word) to mention this particular branch of science. We are not therefore surprised, after this neglect in the English, that the French exhibition should be so *barren* in the collection of improved dental instruments. We are only surprised that any English or American dental manufacturer should have ventured to have contributed at all after the insult received on the former occasion. We only hope the "French Emperor," or his subordinates, the "selected judges," may be more just, and in some degree atone for this neglect. By giving a report in full upon all dental articles exhibited, it would in some measure soften the disappointment known to exist among both American and English exhibitors.

We cannot conclude these remarks without thanking Drs. Evan Delabarre, Tucker and Page for the politeness and attention shown during our visit, and the extreme willingness with which the

imparted to us professional information. Dr. Evans holds the appointment of dentist to the Emperor and Empress, and a host of royal personages besides in Europe, by whom we have reasons to know, he is highly esteemed and respected. His high position, it must be understood, was not *purchased*, neither was the appointment obtained through the *reflected medium* of a scientific successor or court physician's intrigue. Dr. Evans' appointment is the just reward of high scientific attainments in his profession; yet with all his success, and the profusion of titles and costly presents from royal personages, we still find him unaffected, agreeable and affable to his professional brethren, and always ready and willing, without presumption, to impart to others the knowledge he has obtained by his great experience. We cannot help contrasting Dr. Evans' honored position with that of a liliputian royal dentist, who *purchased* his appointment, sanctioned the publication of his biography, which was adorned with a wood-cut of himself, and distributed some eight or ten thousand copies to private families, and then unblushingly countenances the following:—"Here, in his 'Sabine Farm,' after the toils of the day are over in the great city, (London,) the Mæcenas of Wimbledon delights to pass the summer evenings, in the society of a few select friends, having tastes and feelings kindred to his own. As might be expected from a man of cultivated mind, he is remarkable for an entire absence of affectation or mannerism. He is modest and retiring, (very,) and disposed to let others find out whatever merit there is to discover, rather than to blazon forth his own position or achievements."

CONTENTS.

UNITED STATES.—No. 46. Represents natural teeth set in plaster, and a variety of irregularities in porcelain work, well executed. The imitation of a decayed stump in this process reflects immense credit upon the artist. There was also Allen's new process of porcelain upon platina, and two teeth upon cavity plates, by *Kingsley*, New York.

No. 48. By *Fowler & Preterre*.—Allen's process upon platina, gilt. These specimens were very finely executed. There were also specimens of feldspar, quartz and the rough materials from which the compound is made. Specimens of gold fillings, to appearance well executed; but we confess we should prefer seeing similar operations in the mouth of the patient than in a glass case.

No. 45. *Messrs. Jones, White & McCurdy*.—A case containing an immense variety of plain teeth, gum and pivoted teeth. In shape and color they are excellent, and are not surpassed by any in the exhibition.

Their gold and tin foil also appeared good. Although giving this American firm all praise for the perfection and beauty of their manufacture, we cannot help remarking they are the most obstinate and self-willed manufacturers in America. We have repeatedly pointed out to them the requirements of the English markets in the shape of tube teeth, combining their natural form and color in imitation of the natural organs, but to no purpose; sufficient that, &c., is the evil thereof.

No. 50. *T. Ross*, New York.—Block work, an under, most beautifully executed. Also, Allen's process with American teeth?

ENGLAND.—No. 752. *Messrs. Ash & Co.* exhibited a fine collection of their teeth, with the same material fitted to gold plates, supported by springs. The form or character of these teeth are every thing that can be desired. They have not as yet succeeded in giving those gradations of color to their teeth, which so materially adds to the imitation of the natural organs. We are also glad to learn this firm has at last introduced the same description of teeth, with platina tubes at a considerable reduction in price. This firm, since the above was written, we find has had honorable mention made of their teeth, by the judges.

No. 762. *W. Harnett*, a variety of specimens of teeth, with compressed backs, also several mechanical specimens of mounted teeth upon gold plates. Cements for filling teeth.

SCOTLAND.—No. 776. *Young*.—This gentleman exhibits extracting forceps with shifting bits, nine pairs of which are required for the abduction of any class of teeth. They are thus arranged, according to the notice in the case. 1. The beaks on each side are bifurcated with the ordinary curved handles. 2. For bicuspid, with grooved blades. 3. For incisors and small stumps, the grooved blades. 4. For any tooth or root that the preceding instrument will grip.

Upper Jaw.—5. The three molars, right side, small beaks. 6. Similar beaks for the left. 7. Grooved for the bicuspid. 8. Similar but larger for the canines. 9. Laterals and centrals and stumps. The same kind of instruments can be used for children; but some of the latter are the ordinary forceps with the beaks manufactured with the handles. As far as the manufacture of the instruments is concerned they are excellent in appearance; but we much question the novelty of invention; independently of which, this kind of forceps, with shifting bits, are more theoretical than practical.

Blundel's apparatus for applying cold as an anæsthesia in dental surgery; a harmless toy for a novice in his profession. He will be enabled to study the relative value of £100 sterling for the right o

patent, and a similar weight in ice and salt, and strike his balance. There will be shortly some extraordinary disclosures in reference to this patent and the proprietor.

FRANCE.—No. 3990. *Capron's* surgeon's instrument-maker case contains a clumsily made German key and tooth forceps, with the interior of the beaks fashioned like shark's teeth.

No. 4038. *Dr. De Villeneuve's* collection consists of mineral teeth mounted upon gold plate, lined with gutta percha; the imitation of the gums being composed of the same material. The plate upon which the teeth were attached was very inferiorly made. There was also a plaster cast upon which was placed a piece of work representing the loss of the right maxillary arch, manufactured in gutta percha, mounted with natural teeth. There were several of *Everard's* adapted forceps with circular joints, which the exhibitor claims as his own invention. Obturators manufactured from gutta percha. The same material in the rough and manufactured state.

No. 3980. *Messrs. Billard & Son.*—A large collection of mineral teeth; the material from which they are manufactured appears to be good; for shape and color they are but indifferent.

No. 3998. *Mr. Didier.*—This exhibitor furnishes specimens of block work in sets and partial sets; without exception they are the worst attempt in every respect we ever beheld; he also exhibits a clumsy model of his workshop, in which, we presume, the specimens of artificial work were manufactured; the contents and finish of this are on a "par" with the mechanical work.

No. 4023. *Mr. Pierret, of Brest.*—American drills for excavating cavities, scalers, &c. As no mention is made in reference to their origin, we presume the exhibitor wishes them to be considered as his own invention.

No. 3979. *Bidart.*—Teeth with gum, mineral blocks, and shell teeth. These are extremely good as regards color, but very inferior in shape.

Marboville exhibits teeth plugged with cement, &c., also a lower front piece carved in bone. This gentleman pretends to a discovery for rendering bone indestructible, and exhibits specimens of each, before and after insertion in the mouth; also sockets for mounting artificial teeth, made in mother of pearl; specimens of each. He also states that he has a patent for making plates and lining them with mother of pearl; fearing, we presume, that others might encroach upon his right, he modestly states the right of patent is for fifteen years.

He need not be under any fear of any practitioner of common sense infringing his patent.

No. 4015. *Lalemeur*.—A very simple machine worked with the foot, for carving teeth in bone, also in alabaster. Excellent specimens of each were exhibited; an assistant was present practically illustrating its uses. This machine is one of the most ingenious, and at the same time simple in its construction and action, in the whole exhibition.

Beoquet exhibits some beautifully carved specimens of teeth, also of irregularities of the centrals; the contents of this stall are all admirably finished.

No. 4017. *L'Hospital*.—Very bad specimens of mineral teeth.

No. 4039. *Weille*.—A very clever machine for making spiral springs, also a method for keeping up pieces in the mouth. Forceps for extracting teeth perpendicularly.

No. 4059. *Cacan*.—Specimens of mechanical work, minerals mounted upon platina plates, also a tolerably well carved piece in hippopotamus tooth.

Desirabode exhibits perpendicular extracting instruments; specimens of teeth mounted upon gold and bone sockets; a case set round and ornamented with the crowns of natural teeth. Also some very fine and choice pathological specimens of ossific union of the centrals and molars, and exostosis of the teeth. This exhibitor unquestionably does his utmost to obtain patronage, for there is scarcely an important street in Paris but what contains a show case with his cards ad libitum.

No. 10,101. *Royer*.—Specimens of mineral teeth in bone, carved teeth in bone, &c. This exhibitor should have been advised to keep his "specimens" at home, for they neither add to his own reputation or to that of the profession to which he aims to belong. The whole is a most wretched attempt.

No. 10,104. *Simon*.—This exhibitor, if we remember correctly, was the representative of France at the London exhibition, on which occasion he exhibited a piece of machinery worked by clock work, representing teeth popping out and in from a patient's mouth; on the present occasion we have specimens of badly carved bone work, and a variety of old-fashioned instruments representing a combination of the key and forceps.

No. 10,105. *Souplet*.—The mechanical treatment of irregularities with models before and after treatment. Methods employed are those common amongst dental practitioners.

No. 10,110. *Wissner*.—This exhibitor gives us a specimen of gigantic carving, in the shape of a set of teeth in bone, about the size of a good-sized frying pan; also, in a smaller degree, specimens of irregularities and teeth carved in bone; all of which are well executed and finished.

No. 10,072. *Gillet*.—A most beautiful anatomical specimen of teeth, showing the internal structure; also, bone teeth, carved mineral mounted.

No. 10,073. *Gion*.—A case containing various old methods for treating irregularities, artificial work in gold, &c. Dr. Auroux also exhibited his beautiful anatomical specimen in wax of the teeth of man and horse. There was also in the extra department exhibited a small piece of the new metal aluminum.

In the whole exhibition, as far as we could discover, there was not a machine for making swivels. It is to be regretted that Mr. Davis, the eminent press maker of London, had not sent one of his exquisite and economical machines for this purpose; but we presume, from the scurvey treatment pursued by the "judges" towards every thing dental in 1851, there was but little encouragement for him to put himself to a useless expense. The same remarks apply to the want of the improved dental chairs. It is to be regretted that Messrs. Jones, White & McCurdy had not exhibited their valuable invention in this article.

For the Dental News Letter.

AN INTERESTING CASE.

BY S. WALTON, D. D. S.

Anna ———, aged about sixty, had been troubled with a discharge of pus, on the right side of the lower jaw, inside near its angle, for about four years. She suffered at times severe pain in her jaw, face, tongue and throat, so as often, in a degree, to interfere with deglutition. Several physicians pronounced it caries of the jaw. On consultation with Dr. J. D. White, he believed it to be the root of a wisdom tooth, which had become covered by the gum. In searching for the fang, after freely dividing the gum, I was surprised to find the crown of a tooth, which, with some difficulty, I extracted, it being very firmly set. The tooth was a well-formed, good sized, dens sapientia, the crown of which inclined outward under the buccinator muscle, and the roots inward and backward. The enamel on the buccal side was considerably absorbed, and the crown somewhat decayed. She remembered, when about thirty years of age, suffering for a long time as if a tooth was about coming through, but it never appeared, and the pain ceased till she noticed the discharge of pus, when she began to suffer again.

For the Dental News Letter.

ON GETTING UP DIES—ON SPRINGING OF PLATES—AND ON
ETHER.

BY B. S. LYMAN.

MESSRS. EDITORS :—I have for a long time been intending to give you a description of my apparatus and mode of getting up my dies for swaging plates. Also, if time and space allow, my mode of getting over the plague of springing plates, for your most excellent periodical, which I must say, I read with ever increasing pleasure and profit on the receipt of every succeeding number.

After I have got my impression, I take a piece of coarse cotton cloth, which has been thoroughly saturated with wax, and cut in the form of the linen collars which the ladies wear. At the centre, near the lower edge, I make a slit, through which I pass the handle of the impression pan, and bring the ends round to the opposite side and secure by passing a string around and tying. After the impression is prepared, I pour in plaster sufficient to make a model $1\frac{1}{2}$ or 2 inches thick, never minding expense, seeing plaster is only \$1 50 or \$2 a bbl. After the varnish is perfectly dry, I place it on the moulding board, and place over it a flaring sheet-iron cylinder, about 4 or $4\frac{1}{2}$ inches deep, flattened on one side, and the large end wired on the inside, to prevent the sand from slipping out; into this I put the sand, and pack either with my fingers or a stick until it is full; then I turn it over and trim the sand away from the edge of the model a little, and give the model two or three light raps with the hammer, then turn it over and with a few raps with the hand the model will drop into the sand box, provided you hold it over it with the other hand. I use zinc for my male, and lead for my female dies. I use a cast iron skillet, with a lip on the side for zinc; this I put into the furnace, and when barely melted, fill the mould and place on the top a couple of live coals, about the size of a piece of chalk, and in the centre hold a long screw. After it is cold enough to draw, take it from the sand and cool in water, and if trimming is necessary do it while the lead is heating.

Formerly I was troubled very much by the lead spreading while swaging the plates; to avoid this I got up the pattern of a skillet with one side flattened, 5 inches across at the top and $4\frac{1}{4}$ at the bottom, and 3 inches high on the outside, with a flat bottom, and a handle on the flat side about 7 or 8 inches long, the sides a half inch and the bottom three-fourths of an inch thick; I got a pair cast and from that time have used them to my perfect satisfaction. When I wish to make a lead cast, all I have to do is to put it into the furnace, and

when the lead is barely liquid, I take it out by the handle and place it on the hearth; then with a pair of tongs take hold of the screw in the male die and plunge it into the lead far enough to get a full impression, and hold it there until the lead is hard enough to hold it; I then withdraw the screw, and when the lead is solid, give the male cast two or three good raps with the hammer to condense the lead thoroughly. The advantage of this apparatus will be apparent to any one, as the skillet is strong enough to bear all the pressure necessary for swaging a plate; again, it is so simple that if necessary, the dies may be got up in two hours from taking the impression. If you think this worth a place in your periodical it is at your service.

ON SPRINGING OF PLATES.*

Some three years since I read an article in the *News Letter* on the subject of springing plates, and describing an apparatus composed of a band of platina, slitted on the edge so as to turn under the edge of the plate, &c.; this struck me as perfectly philosophical, and as platina is rather costly, I thought I would try tin. My course is, when I have lined my teeth, I stick them to the plate with wax; I then carefully break off the plaster on the outside and slip the plate from the articulating cast and turn it, teeth down, upon a board; I then take a strip of tin about three-fourths of an inch wide, and bend it so as to come about three-sixteenths of an inch from the teeth, the ends turn around the end of the plate about an inch and a half; but I cut the ends out so as not to touch the plate. I prepare my plaster two parts sand and one plaster; this I mix and pour into the tin, not letting it pass over the edge of the plate except at the ends to fasten the tin; I take hold of the plate and slightly raise it so as to let the plaster cover the ends of the teeth. When the plaster is hard enough to handle, I take off the wax from the teeth and put on the solder; I will remark that I generally solder the pivots and file and finish them before soldering to the plate. After the solder is in place, I place it upon a piece of charcoal I keep for that purpose, about 5 inches long and $3\frac{1}{2}$ or 4 inches in diameter, covered with plaster, then light my alcohol lamp, and blow gently on the outside until the plaster is thoroughly heated; then I turn it so as to let the flame pass over the edge of the teeth on to the linings and plate, until the solder flows: it

* We shall have to find a new heading for this subject as this one has become so dry stale. Suppose we adopt the title of "Untoward Tortuosity," or "Rebellious justification," etc. If this be not liked, will some one give us a better one?—ED.

takes me generally from ten to twenty minutes to solder a set in this way. This mode is simple and cheap, and since I have pursued it (three years) have not had a plate warp enough to do it any harm.

ON ETHER.

As I have the time, I will state two cases where I used ether, which were recalled by cases in the last News Letter.

I have been in the habit of using the ether in my practice, almost from its first introduction, and I dare not tell how many times I have used it, since the great meeting in New York, on the Beale case, when some reported their practice extending back some four or five years before it was introduced, and others, hundreds of cases, who to my knowledge never administered it.

I have administered it but in two cases of plethoric habit and disease of the heart; about two years since, a patient introduced to me, in my office, Mrs. A., who was suffering very much with three or four stumps, and who wished to inhale the ether to have them extracted. I examined her, discovering symptoms of disease of the heart; on inquiry she confirmed it, when I declined it; but she insisting upon it, I finally consented to administer it. I kept my finger upon the pulse and found it run up for a minute, until its beat could not be counted and she could scarcely breathe; I rested a moment and then applied the inhaler again, when the pulse went down to its usual beat, but in three or four minutes she became so wild that it was impossible to operate; I let the effects subside and told her if she found no bad effect, to call the next day with her husband and I would try again. In the morning they called, before I was up, and I administered it again; at first she had visions of the pit, but soon soared into the third heavens and began to describe paradise, and prophesy, and for fear she should reveal things she should not, I told her husband to take hold of her head, and another to hold her hands, when I took out the teeth in a "giffie," but she put her foot through the window most decidedly; the effects went off in about half an hour and she returned home; I saw her about two weeks after, when she told me her heart had behaved much better than for a long time previously.

The other case was one of tic douloureux. Mr. S., a patient, whose mouth I had put in complete order about two or three weeks previously called on me one morning, about a year since, complaining of very severe pain in two teeth of the right side, and extending over the whole side of the face; he was holding cold water in his mouth

allay the pain. I examined the teeth but found them healthy, and advised the use of mustard paste, and such applications, to relieve it. In the afternoon he sent down for me to bring my instruments as he wanted three or four teeth out. I went up with the determination to do no such thing. When I arrived he was suffering intensely, and after remaining about half an hour, and suggesting one remedy after another, I at last extracted one tooth; just after tea he sent for me again, and I took along my inhaler; when I arrived he was holding cold water in his mouth, and wished me to extract two or three more teeth. I told him I was sorry I had taken one out, and should take no more, any how. I directed his wife to make some mustard paste, and told him I would give him some ether to ease the pain while he was undressing; I then applied the paste to the face and both feet, and while he set up in bed gave him a good charge of ether and laid him down quietly. He awoke in the morning entirely relieved and has had no return since; he has since died of dysentery, which has about as much to do with the case as Dr. Beale had to do with the lady whose evidence convicted him. The result of this case was perhaps as satisfactory as any that has come within my practice.

Well, I will stop here for fear you may think my pen has been taken with a bad diarrhoea. If these cases please you, use them, if not, send them to the—well, to the boy that drives the rollers over the types.

PLUGGING FRAIL TEETH—UNFORTUNATE RESULT.

“Pray, reader, were you ever so unfortunate?”—[Prof. White, the Dental News Letter, No. 4, page 244.]

TO PROF. WHITE OF THE PHILADELPHIA DENTAL COLLEGE:—*Dear Professor*—We plugged a frail superior right canine tooth which was very sensitive; all the ivory part of the crown was decomposed by decay. After having with great care and attention carved off the atrophy down to the neck of the tooth, we could perceive as distinctly as through a glass window, the drill running round in the whole extent of its inner part. To plug this sensitive *organ* was the next question. The patient herself, endowed with a good natured notable kindness, was nervous. The difficulty was doubly great; we could foresee the result, nevertheless our proper love recalled to our mind the maxim of the wise: “*Patientia omnia vincit.*” The operation being perfect, according to appearance, we were about polishing the metal, when, to ensure success, we found it necessary to add another particle of gold; but, unfortunately, taking a small plugger to compress our dear little scrap of gold, the saliva being then between

the extreme part of the canine and our instrument, caused the latter to slip, and the crown to fly to pieces, to the surprise of the lady and to our great confusion; all that was left was only a part of our plugging remaining yet attached to the pulp. *Sic transit gloria mundi.* Since that, we resolved not to proclaim the victory before the battle is won. After this unlucky issue, what was to be done? a remedy still offered itself. The nerve being alive, it was necessary to have it destroyed in order that the root might receive a pivot; we sank rapidly a square needle, revolving it between our index and thumb, into the dental canal; but there was another difficulty, the gum was a little receding from the unicuspid which was very long; it was impossible for us to find out any where a pivot tooth of that length; we were therefore compelled to make use of a plate canine tooth which we mounted on a gold pivot, which tooth, providentially, resembled in all respects the left canine of the lady.

The operation was performed on the morning of the first of September, 1855. Now pray, Doctor, were we not as unfortunate as you have been?

We remain, Doctor, with high regard, yours very respectfully,

B. N. DUREL, *S. M. Dentist.*

New Orleans, September, 1855.

We cheerfully give place to the above interesting and sympathetic response to our inquiry in our brief article on plugging frail teeth. Truly,

"Sympathy within the heart
Acteth there an angel's part."

J. D. W.

BLOCK-TIN FOR SOLDERING SILVER.

TO THE EDITORS OF THE DENTAL NEWS LETTER:—*Gentlemen*—I have recently been experimenting with block-tin as a solder for silver work, and find it in many respects superior to the ordinary silver solder of silver, brass and zinc, it not being so readily acted upon by the acids as even pure silver; the heat necessary to melt tin being 240°, hence no danger of breaking teeth or the warping of plates, and it is sufficiently strong for all practical purposes; but in order to unite teeth securely, a flux must be used; I use a flux made by dissolving all the zinc that can be dissolved in muriatic acid, and applying it to the points where I desire my solder to flow, which will cause it to unite securely and flow smoothly. If you think this information would be of interest, you can give it a place in your journal, or consign it to the flames.

J. K. RICKEY.

Keokuk, Iowa.

For the Dental News Letter.

CONSTRUCTING LOWER PLATES.

BY W. H. GODDARD, M. D., D. D. S.

In the last number of the Dental News Letter, I find a communication from a "A Subscriber," with some remarks from Dr. J. D. White, upon the method of adjusting lower plates. I am glad this subject has been suggested, for truly "much has been said and written upon the upper plates," as if our greatest difficulty was in them, to the entire exclusion of everything regarding the lower ones, and the latter present generally all the difficulties which are so hard to surmount.

Every member of our profession has his own peculiar method of adjusting plates in the mouths of his patients, and that method is deemed by him the best, and *the one* which, under his hands, has answered the very purpose; still difficulties present themselves, and we require more light, and the best way of obtaining that information is for the members of our profession to give us their experience.

It is obvious to all who have had much experience in making artificial teeth, that the lower plate should be thick and narrow, thereby leaving full play to the muscles, frenum and integuments of the cheeks. A plate thus made will be worn with ease for some days, then begins to give trouble by the edges of the plate pressing upon and into the parts beneath; to remedy this, the entire plate should be larger than the ridge, and sit at first loosely upon it. Dr. White's method of wax may answer every purpose, but I would prefer the entire ridge being covered with wax to the thickness of the plate which is used. The method I have adopted for the past few years, and I am indebted to my friend Dr. Somerby for the suggestion, is to make a copper plate first to fit my die, and over that to swage my gold plate, the copper plate should be nearly or quite as thick as the gold one, the gold plate will of course be the thickness of the copper plate, larger all over than the alveolar ridge, and when first put into the mouth will be loose, bearing principally upon the top of the ridge, and for a few weeks the wearer will experience some trouble in eating, for when pressure is made upon one side its opposite will rise, but with patience and perseverance, qualities very essential to all persons who are obliged to wear artificial teeth, all will be right. The front or labial side of the lower jaw is generally an incline plane, and the plate bearing principally upon the top of the ridge, the edges will not press upon the parts beneath, and as the top yields from pressure and the plate settles, it will bear equally upon every part, and require some exertion to remove. This I have found, by my experience, to be the best method of

adjusting lower plates, and have used them only three-sixteenths of an inch wide, and as thick as I could swage coin gold. If the above is faithfully observed, I believe much of the difficulty we have so long labored under will be removed.

This may not be new to the profession, but as I have not seen it published, thought I would suggest it, in hopes that others may give us their experience upon this subject.

We are happy to have received the above from our distinguished friend, Dr. Goddard, and cheerfully give it a place in the journal, as it is another ray of light on the subject it treats of, and we hope with him, that others will give us their experience on this important subject.

J. D. W.

For the Dental News Letter.

DIVERTED OR IRREGULAR TEETH.

PROF. J. D. WHITE:—*Dear Sir*—Enclosed you will find a tooth, which was extracted on the 27th April, from a gentleman twenty-five years of age. The person had his teeth all extracted some two years ago, and has been wearing an artificial set ever since. The tooth occupied about the position of the right central incisor of the superior maxilla. There are various opinions about it. I would be glad to hear your opinion whether it belongs to second dentition, or is it a supernumerary tooth?

Respectfully yours, &c.,

JAMES BRYSON.

We have seen several cases of the kind described above, and always regarded them as *diverted*, or irregular teeth, and taking an oblique direction into the roof of the mouth, are not long enough to permeate the gum as when they take a vertical or normal direction, until after the other teeth are extracted and considerable absorption of the parts take place. The approximation of the lateral incisor and first bicuspid tooth from premature extraction of the deciduous cuspidatus, caused the diversion of the second cuspidatus, and the arch being full of teeth caused the patient to believe that they originally possessed an entire set. We have a prepared specimen where this condition of things exists there is a well developed canine tooth lying obliquely inwards and backward towards the palatine arch, but which had not permeated the gum. We know of a number of cases of this kind, which are indicated by a prominence of the gum of those parts, and the absence of the cuspidatus in its proper position, and which have been brought about entirely by a premature extraction of the canine tooth of the first set.

J. D. W.

For the Dental News Letter.

GUTTA PERCHA.

MESSRS. EDITORS:—You will do me a favor, and I doubt not confer the same on many of the profession, if you can spare room in your journal to insert a few lines on the proper use of gutta percha as a base for artificial teeth.

Some few weeks since I sent a small circular to as many of the profession as I could learn the whereabouts of, giving the result of a course of experiments that I had made with gutta percha. I had no idea at that time that it would attract so much attention, or be received so favorably by the profession. I then offered it to the profession for temporary work, and for nothing more, and that is all I now claim for it. I stated at the same time that I was satisfied that in many cases it might be used to advantage for permanent work, and from my experience since that time, as I became better acquainted with the properties of gutta percha and the manner of working it, my impression is, that in nearly every case where the teeth are long and gums soft and tender, it will be preferred to any other material for permanent work, both by the patient and dentist.

Gutta percha cannot be used for *every* thing, neither can it be used to advantage in every case, *even* for temporary work. I wish here to state, where gutta percha *can*, and where it cannot be used to advantage, so far as my own experience goes; others may claim what they choose. Where teeth are extremely short and set close together, you have not the room to unite the gutta percha through and around the teeth, so as to make it firm and durable.

If short teeth were made with narrow necks, so as to let the gutta percha pass freely through and unite firmly on the other side, it might do well. The teeth that are best adapted to this kind of work, are those made for Allen's continuous gum work; they have narrow necks, and will permit the gutta percha to pass freely between them and unite firmly around the teeth, and at the same time adhere firmly to the gutta percha on the opposite side. This is necessary both for strength and neatness, and if properly done will prevent any food from lodging around the teeth, or even moisture getting between the teeth and gutta percha, thereby preventing any unpleasant smell that would naturally arise from it; common plate teeth might do well if ground narrow at the base. It is as necessary for a dentist to exercise his judgment in the working of gutta percha as in any other part of his duties. It is impossible to stick gutta percha on plate, or on the teeth, and have it remain long, unless one understands well the man-

ner of working it, and it then requires judgment to know when and where it should be used.

I have spent a good deal of time and money in learning the best way of working gutta percha, and to make it as simple as possible. I don't pretend to have perfected the working of this material, but one thing I do say, that unless a dentist is well posted up in the manner of working gutta percha, he will find it cheaper for him to pay any reasonable sum for that instruction than to learn it from his own experience; that is if he values his time worth anything, throwing aside the expense and trouble. I have, within the last six weeks, instructed a large number of dentists; some work it beautifully, while others make a perfect botch of it. It is not only necessary for a man to see it done, but he must take hold and do it himself, and if he should fail the first time, *no matter, try again*. The only way that gutta percha can be brought to that perfection that our profession need, is for every one to try and make some little improvement, and when these are all combined, I doubt not we shall have just the thing we want.

My greatest fears are, that the profession as a mass, are expecting too much of this new material, and will use and recommend it when they ought not to, and thereby kill it in the bud. I find dentists like everybody else, too much inclined to make a hobby of a new thing, and use it in every case, and recommend it to *all* their patients as being superior to everything else; and then if it should not prove what *they themselves* claim for it, will condemn it as being a *great humbug*, such has been the fate of some of our most valuable improvements, and such may be the fate of gutta percha, if not used with more judgment than some are now doing.

My intention is to try and bring this improvement within the reach of every dentist, but not to force it upon any one. I don't think it possible for me to explain the manner of working gutta percha on paper, so that a dentist can work it successfully without further instruction, unless he is well posted up on its peculiar properties, and has experimented with it before. Such is the opinion of nearly all when they have once seen it worked.

I am not selling patent rights. If a dentist wishes to learn my manner of putting up this style of work, I *instruct* him, or cause my agents to do so, and charge him a reasonable fee for my services.

On my first bringing this before the profession, I made application for a patent for my mode of working gutta percha; but by the advice of a number of dentists who thought it might prejudice many against

it, I withdrew that application and secured myself on the gutta percha; that is my manner of refining and coloring it, and then sell no man the material unless he has first been instructed how to use it. In this way I secure myself and give those that have received instructions better security than I could by a patent. I have several agents in the United States, who are authorized to instruct dentists in the manner of doing this work, and they will try and bring it within the reach of all. I have made Messrs. Jones, White & McCurdy, of New York and Philadelphia, my only agents for the manufacture and sale of the colored gutta percha, and from the well known reputation of this house, I think the profession may rest assured that they will receive nothing from their hands but what is pure, and that they will do the best to make every improvement that it is possible to make with gutta percha, for dental purposes.

The cost of gutta percha for a full upper set of teeth is from seventy-five cents to one dollar and fifty cents, with no waste, and the time usually spent in making them is about four hours, and when properly done will wear smooth and hard. It can be made as firm as any plate work, and look as well as the best gum teeth.

To keep this work clean and sweet, all that is necessary is to give your patient a suitable brush and have him use soap and water freely. I have deemed it necessary to make these explanations, that any one may see what I *do claim* and what I *do not*, and how the gutta percha is disposed of, the cost of material and who it can be obtained from. Any further information on this subject, I will cheerfully give.

Yours, respectfully,

N. P. SLAYTON.

Madison, Indiana.

For the Dental News Letter.

TRANSACTIONS OF THE PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

The annual stated meeting of the Pennsylvania Association of Dental Surgeons, was held at the Dental College, October 2d, 1855, the President, Dr. Dan'l Neall, in the chair. The following officers were elected for the ensuing year: President, Dr. Elisha Townsend; Vice-President, Dr. W. W. Fouché; Recording Secretary, Jas. E. Garretson; Treasurer, Dr. David Roberts; Librarian, Dr. S. Dillingham; Committee on Membership, Drs. Edw. Townsend, J. H. McQuillen and Jas. E. Garretson.

At this, and an adjourned stated meeting, held October 9, 1855, the attention of the members present was engrossed by the necessary

business of the Association. Reports of committees, election of officers, election of new members, (the following gentlemen having been duly elected active members: Dr. Dan'l McFarland, Washington, D. C., Dr. John H. Githens, of Philadelphia, and Dr. C. A. Kingsbury, of Mount Holly, N. J.;) the appointment of a committee to superintend the publication of the transactions of the society, (the columns of the Dental News Letter having been offered to the association for that purpose by Dr. J. R. McCurdy,) the adoption of an amendment to the by-laws; changing the Examining Committee to a Committee on Membership; the appointment of a committee for the purpose of increasing the society's library, and lastly, Professor White was requested, by the President, to prepare a dissertation for the next stated meeting.

A special meeting of the Association was held at the Dental College, October 16, 1855, the President, Dr. Elisha Townsend, in the chair. Members present, Drs. Arthur, Williams, Neall, White, Pierce, Buckingham, Dillingham, Calvert, Flagg, Harris, Roberts, McCurdy, Du Bouchet, Edw. Townsend, Garretson and McQuillen.

The principal interest of the meeting was the consideration of the amalgam question, as presented in the Dental News Letter by Dr. Elisha Townsend. The doctor, at the desire of the meeting, arose and said—He was glad to have the opportunity of defining his position in this matter; felt and knew that he had been misunderstood; wished that his views should be made very clear, and the sincerity of his sentiments appreciated; alluded to the length of time he had been in practice; to the strides toward perfection the profession had made in that period; the explosion of old ideas and prejudices, and the adoption of new and true ones; experience proving their truth. Few bodies of men were ever joined together for a common good, who had individually labored more honestly, or with more singleness of heart for the good of the whole.

He was proud of his profession and of his brethren engaged with him in its cultivation, and was unwilling the antiquarian spirit should bury him in the relics of the past. If, in what I now have to say to you, you deem me in error, do not hastily condemn the suggestions I make, but let me ask you, each and all, to experiment in the article of amalgam, with an eye single and sincerely desirous of eliciting the truth, whatever that may be—be careful in your experiments and in all your manipulations; do not take anything upon trust from me, or use it blindly and indiscriminately because I do, but see for yourselves “Mark, learn and inwardly digest,” before you add your weight of sanc-

tion to mine in giving character that after all may not belong of right to the article of which I speak. By thus doing you will strengthen and aid me if I am right, and will deserve the thanks of the profession and the public as well as mine. If I am wrong, and you can convince me of it, you shall have my sincere and heartfelt thanks. I wish the greatest good of the profession, and that through its increasing knowledge, its usefulness may be so increased that it shall be an honor and privilege to be ranked among its cultivators. You are aware, from my article in the News Letter, that I have occasionally used the article of amalgam in my practice, and I think my duty to my patients compels me to do so. The new method of preparation rids it of the greatest objection to it—its blackness, and scientific experiment has proved that it cannot be injurious to the mouth or teeth in any other way. The present mode of preparation, we think, secures it from the possibility of discoloration. Do not misunderstand me; I do not advocate the use of it to the exclusion of gold, or in cases where a solid filling of gold can be placed, but there are teeth worth saving, if even for a short period, where any filling requiring pressure to compact it would be inadmissible, and here a plastic material is invaluable. I know there are some prodigies who *never* are baffled, who *never* see a tooth they cannot fill with gold. I am *not* a prodigy, and I do often see teeth my patient will thank me for saving, if even for a few months, which I have not the skill to fill with *gold*.

The Doctor here presented an artificial crown of amalgam built upon the fangs of an inferior molar. This, gentlemen, is the counterpart of an operation performed in the mouth of a lady a few weeks since; she came to me to have it extracted, and is now using it with perfect comfort with its artificial crown. The manner of building it was thus: a piece of watch spring well annealed was carefully fitted around the fang, passing under the free margin of the gum; into this the filling was packed and built up to the height necessary for the proper antagonization with the superior tooth; the spring was allowed to remain for an hour, then removed and the edges trimmed and packed and burnished. In two days the patient returned, when the filling was stoned and polished, as the one I present to you. After some remarks on the chemical affinity of the metals used, the Doctor said that as long as there was no loss of substance, no disintegration of the particles of the filling, there could be no systemic effect produced.

A member asked, "if the metals employed were required to be pure?"

Certainly, the mercury of the shops has to be purified chemically.

[By request, Dr. T. here prepared some amalgam, according to the recipe given in the News Letter, and filled a tooth in presence of the members.]

Dr. Jas. M. Harris expressed admiration for the article, and hoped it might not disappoint Dr. Townsend's most sanguine expectations, as he thought it promised to be a great aid to the dentist; spoke of many teeth sacrificed after being filled with gold or tin, in consequence of inflammation ensuing, which might have been saved, if no pressure had been used in packing the filling; thought the matter of great consequence, and hoped no prejudice might be allowed to influence the decision which should follow a close examination of its merits.

Dr. Townsend—Let me be understood by my friends to be only an experimenter, and perhaps I have only given you one bright side of this subject; there may be a blackened side, oxydized like the old succedaneum; I have not yet seen it; when I do, I shall tell you. But while I can put a ring around a tooth which has been cut or worn by a spring or band, and after a few hours replace the band which can be worn comfortably without being affected by the mercury; while I can build up large crowns of teeth on mere fangs, useful for mastication, and find no injurious systemic or local effects, I feel bound in honor and duty to my patients to employ it. Dr. Harris' manner of receiving the subject pleases me. I want my professional brethren to work with me, to assist in building up or pulling down. Don't take hold of it, pinning your faith on my sleeve. If it is a good thing, let us test it and convince ourselves, if it is not, the sooner we know it the better. If it be a truth, it will stand and need no backers—if not, it will as certainly fall. Let me express the hope that you entirely understand my sentiments and connection with this question. I do not, as yet, endorse the use of amalgam, except as an experiment; but time, which proves all things, will prove this.

Prof. Buckingham alluded to numerous experiments he had made with amalgam, which, in the aggregate, had resulted unsatisfactorily; spoke of the action of acids on metals as influenced by proportions of alloy; considered the character of the new amalgam to be greatly influenced by the length of time the superfluous mercury was allowed to remain in conjunction; exhibited specimens, one of which had been amalgamated over night, and the mercury pressed from it on the ensuing morning; the material presented a soft and pasty character. Another specimen, prepared just before filling the cavity, looked firm and silvery; thought, however, (and offered the suggestion as the result of continued observation,) that teeth which were so far decayed as to

prevent the introduction of gold or tin fillings had better be removed from the mouth, than be allowed to remain in it. In conclusion, remarked that even admitting this new amalgam to possess some virtue, the harm which would result from its general use, would so far counter-balance the good, as to make its endorsement unadvisable.

Dr. Daniel Neall belonged to the progressive party; was unwilling to condemn any thing without a fairer trial than the new formula had received; always stood on the threshold to welcome improvements and suggestions; thought that instead of condemning hastily, it might be as well to convince ourselves by experimenting; desired to know whether Dr. Townsend would fill all frail teeth with the amalgam?

Dr. Townsend.—By no means; such alone as I deem may be saved, but not with gold foil.

Dr. M'Quillen had no experience to offer in the use of the article, having filled but one tooth with it, and that was out of the mouth. Before experimenting in it, let alone introducing it into his practice, desired to obtain all the light he could upon the physical and medical properties of mercury; alluded to the views entertained by Fownes, Turner, Faraday and other chemical writers, that mercury volatilizes to a sensible extent at all temperatures above 70° , but does not oxidize at any other temperature than a little below its boiling point 662° ; dwelt upon the difference of opinion between writers. Wood and Bache, regarding metallic mercury as inert in its action upon the economy, considering the potency due to its combination with other elements; admitting at the same time the possibility of such combination taking place in the system when retained for any length of time. On the other hand, cited cases from Dunglison's Therapeutics, where individuals had unquestionably been affected by metallic mercury; considered the presence of mercury in any preparation intended to be used as a filling for decayed teeth as decidedly objectionable; had reason to believe that in the most perfect amalgam filling, there would be a certain amount of free mercury present, which would undoubtedly volatilize, exposed as it must be to a temperature near 98° ; alluded to the idiosyncrasy many persons labor under where the administration of the slightest amount of mercury is sure to be followed by serious results.

Dr. Githens had filled many teeth with amalgam, but only used it in cases where gold foil could not be employed. Several years since, at the urgent request of a patient, filled a number of teeth with amalgam, which at the time he thought ought to be extracted, and so advised, but overruled, allowed himself, more as an experiment, to use the amalgam, suggesting that in all probability they would last but a

few months ; saw them five years afterwards, and the teeth looked as well as when the operation was performed. In another case, had preserved certain teeth fifteen years with amalgam fillings ; thought that by the use of gold they could not have been preserved as many months ; could not understand why in such cases amalgam should be repudiated ; never knew of any injury resulting from its use, systemic or local.

Prof. Flagg.—When the article was first introduced into the country, many years ago, had, in connection with his brother, violently opposed the use of it ; wrote, he believed, the first article penned in opposition in this country, which was published in the Boston Medical Gazette ; had changed his views, and was using the new formula in his practice ; inclined to the belief that for such cases as recommended it is invaluable. Some time since saw a case of pytalism supposed to result from the presence of four amalgam fillings ; thought, if the deduction was correct, the fault lay rather in the manipulations than in the material, the amalgam having been plastered roughly in the cavities and around the necks of the teeth ; otherwise had never seen any thing like an authenticated case ; thought the stigma attached to the article influenced the opinions of practitioners, which, to say the least, was unscientific ; remarked that if an amalgam filling should oxidize, (but which if properly prepared it is believed cannot be the case,) a little pumice will soon remove the objection.

Prof. White.—The article as yet is but an experiment ; a few months experience could tell nothing about it. The objectionable features of the old preparation being present in the new formula, had reason to believe that a few more months' would convince its present advocates of the impropriety of using it in their practice.

Dr. J. M. Harris related cases coming under his observation where the merest shells of teeth had been preserved 20 years by the aid of amalgam ; the only apparent objection being the discoloration ; hoped the new mode of preparation would clear it of this objection ; believed it would.

On motion, the discussion was continued to the next special meeting, November 20th.

A special meeting of the Association was held at the Dental College on the evening of November 20th, 1855. The President, Dr. Elisha Townsend, in the chair. Members present, Drs. Daniel Neall, Fouché Pierce, Harris, Du Bouchet, Calvert, McQuillen, Dillingham, Flagg Buckingham, McCurdy and Garretson.

The President having stated that the subject for discussion was the amalgam question, as continued from the last meeting, requested the views of Dr. Fouché.

Dr. Fouché had formerly been opposed to the amalgam for filling teeth, and up to a few months back never used it, but in the new formula found his objections removed; has been carefully experimenting, and is convinced that in this preparation we have a desideratum long sought, and recommends it to the profession as an invaluable aid in such cases as it is intended to be used; has filled as many as five teeth in a day with it; so far as the short time admits of a proper judgment, his operations have been attended with the best results.

Dr. Townsend desired the grounds of Dr. Fouché's former objections.

Dr. Fouché supposed that ptyalism was sometimes caused by the use of amalgam for filling teeth, and again its rapid oxydation; all his fillings of the new formula remain as bright and silver-like as when first placed in the mouth, a period of four months; inclined to the belief that the impurity of the metals used, and their imperfect combination, would be a sufficient explanation of the objections to the former material; the present process of trituration, the complete alcoholic washings, the strict enjoinder to use chemically pure metals, removes these objections as he had convinced himself.

Dr. Du Bouchet had used the material in a single case; saw the filling two days after and it had not solidified.

Prof. Flagg had employed it in 70 cases which he thought desperate; removed only four of the teeth, which were entirely devoid of vitality. Believes, as he stated at the last meeting, that it is a desirable preparation; but, as then, recommends it in such cases, as for sundry reasons gold foil may not be employed.

Dr. Dillingham had tried it cautiously; placed it in many delicate mouths; watched the cases closely, and was most favorably impressed.

Dr. McQuillen had doubts about the correctness of applying the term oxydation to the discoloration that occurs in amalgam fillings. Alluded to the fact that silver and mercury only oxydize at the melting point of one and boiling point of the other; but admitting at the same time, that new affinities might arise in a state of combination. Would offer as a supposition, (not as an assertion,) that the discoloration was due to the affinity that the two metals have for the sulphur contained in the albuminous portions of the food. Cited the blackened appearance of silver spoons when used with boiled eggs; also the

tarnish that forms on silver plate when exposed to the atmosphere; in the first instance a sulphuret of silver being formed from the sulphur contained in the albumen of the egg, and in the second from sulphuretted hydrogen present in the air. Was satisfied that the most careful washing could not overcome the affinities that exist between elementary substances, and believed that a later experience would prove the possibility of discoloration taking place in the new amalgam.

Dr. Fouché.—If the discoloration that forms in the amalgam is not an oxyde, then he did not profess to know what an oxyde is. Had noticed that the amalgam was not as good a conductor of heat as gold; and regarded this as an important matter in filling teeth where the nerves are nearly exposed.

Prof. Buckingham could see no particular difference between the so-called new and old amalgams, precisely the same metals being used. Pure mercury will not oxydize except at a high temperature, but when amalgamated with other metals it is another matter. This amalgam oxydizes in preparing it; to wash away which Dr. Townsend uses absolute alcohol. What then is to prevent a similar oxyde from forming in the mouth? Believed it a good thing in its place, but it was evident that its advocates were getting it thus early quite out of its proper position. Thought that in a short time they would discontinue its use.

Dr. Daniel Neall valued the teeth as beyond price; as worthy of having invoked to their aid any thing and every thing promising their salvation. Alluded to teeth which, from peculiar relations, might possibly be saved with something of the kind when they could not be with gold—frail teeth, or peculiarly articulating teeth. Never extracted a tooth when there existed a prospect of saving it. Is in the habit of filling the worst teeth with gold, believing it desirable to run the risk of having afterwards to extract, that we may at least enjoy the consciousness of having made the attempt to save. Would try every thing before resorting to extraction. Thought this amalgam might prove a valuable addition to our pharmacopia, if kept in its proper place; but to place it on an equality with gold would never meet with his sanction. Desired to know whether he understood Dr. Fouché to say that he was in the habit of filling five teeth a day with the amalgam.

Dr. Fouché.—Yes, and large cavities; filling them, as I believe, with greater benefit to my patients than if I had used gold, and with much less fatigue both to them and myself.

Dr. D. Neall.—There is the difficulty—this wholesale use of the

article. In my own practice I do not see five teeth in a week I could not save with gold.

Prof. Flagg.—Surprised at Prof. Buckingham's assertion, "that there was no difference between the new and old formula;" as in the old we had copper, lead, bismuth and other alloys, while in the new we have the pure metals. Remarked that three years had proven the unchanging character of the new formula. Thought that pecuniary consideration should be taken into account. Did not know how it might be in the practice of others, but in his own could often save desirable teeth, where the patient could not afford the expense of gold. Asked if, in such cases, the teeth should be suffered to decay without any attempt being made to save them?

Dr. Pierce.—Would Prof. Flagg prefer the amalgam to tin foil.

Prof. Flagg.—Decidedly.

Prof. Buckingham.—As professional men, the question of dollars and cents should never be allowed to stand between us and the patient's best interests. The question should not be presented on such grounds, but only in connection with its merits and demerits. If we consider gold the proper material to be employed, then I think we have no right to use any thing less valuable; but tin foil had better be used than this amalgam because we have nothing to fear from it, at least in the shape of an oxide.

Dr. Townsend.—With regard to the prejudices existing against the article, inclined to believe it resulted from amalgam generally being found in company with bad teeth; teeth that never should have been filled, and again from its being very much employed by quacks; yet, even in the hands of such persons, had known teeth to be saved for years. Considered that there was sufficient difference between the new formula and the old to remove all objections to its prudent employment. The mass being homogeneous, no lead or other impurities and no oxyde, as that which forms in trituration, is removed by the alcoholic washings. Dr. McQuillen's views relative to mercury only oxyding at the boiling point, is incorrect, as any one who has prepared blue mass can readily assert. As Professor Buckingham condemns the amalgam so much on account of the oxyde, would ask if he had never remarked the same result in gold fillings.

Professor Buckingham.—Often, but the discoloration that occurs under gold fillings and oxydation, are two things.

Dr. Harris had remarked in his practice, one case where ptyalism seemed likely to result from the use of amalgam in filling teeth; could state the case, that the members might judge whether the fault

lay in the materials or in the manipulation. Eighteen teeth had been filled; the material had been plastered not only in the cavities, but about the necks and margins of the gum, making as it were a mass of teeth and amalgam. The cavities seemed to have received no preparatory treatment, and certainly no attempt had been made to finish up a single filling.

Dr. McQuillen.—Notwithstanding all that had been said in favor of the article, and the fact that one operation he had performed in the mouth promised favorably, felt a disinclination to introduce it into his practice. Freely admitted that he had never seen a case of pytalism resulting from the presence of amalgam fillings; supposed the limited use of the article since his entrance into the profession would account for that. Had, however, every confidence in the judgment and veracity of Professor Harris, and other writers who assert positively that cases have come under their notice, not only of pytalism, but extensive absorption of the alveoli, induced by the presence of amalgam fillings. As the active agent that brought about the trouble in these cases was present in the new formula, he could not but regard with misgivings its reintroduction to the profession.

On motion, adjourned.

A stated meeting of the Association was held at the Dental College on the evening of December 6, 1855. The President, Dr. E. Townsend, in the chair; usual number of members present.

The principal item of interest was the report of the Committee on Sponge Gold, which was adopted and committee discharged.

REPORT ON SPONGE GOLD.

To the Pennsylvania Society of Dental Surgeons :

GENTLEMEN:—Your committee appointed to test the value of sponge or crystal gold as a filling for carious teeth, would respectfully report:—That from all the knowledge they can gather from the experience of members of the profession, and also from the experience of the committee, they do not consider it advisable to recommend it to the profession as a reliable or safe material for filling teeth. With one exception, your committee is unanimous in their determination never to use it in their practice; one of the committee thinks he may use it in some cases, where it would be used to fill out or patch a false filling, and where it would not come in contact with the bony parietic of the cavity. No time, labor or expense is saved to the operator

The amount of pressure necessary to make an apparently good filling of crystal gold, is greater than is needed for gold foil; and all, even its warmest friends, admit it takes more time. If a more perfect and enduring filling was made by this extra labor and time, your committee would deem it time well spent, but this has not proved to be the case; the fillings placed by your committee have, in nearly every case, been removed, and the teeth re-filled, in consequence of the imperfect condition in which they were found after a lapse of only a few months. The edges of the fillings in some cases crumbled and admitted moisture freely around them; in others, the teeth were very much discolored around and under the fillings, the discoloration being so great as to demand the removal of the filling. Your committee have the report of some gentlemen who seem to have succeeded in making very perfect fillings, which so far stand the test of time and wear of the very material which the manufacturers admit to be a bad article, and which they wish returned to them, that they may furnish a better in its stead. The only difference between that furnished two years ago and the present preparation, seems to be a property of greater adhesion; in all other respects it is open to the same objections as the earlier specimens. With these views, your committee cannot recommend the *present* preparation of sponge or crystal gold for filling teeth, if the object aimed at be their preservation for a series of years. All of which is respectfully submitted,

E. TOWNSEND,

J. D. WHITE,

J. F. B. FLAGG,

T. L. BUCKINGHAM,

J. H. M'QUILLEN,

F. REINSTEIN,

CHAS. A. DU BOUCHET,

JAS. M. HARRIS,

DAN'L NEALL.

The Librarian, Dr. Dillingham, informed the Society that Harris' Principles and Practice of Dental Surgery, sixth edition, enlarged and improved, had been presented to the Association by the author. The Librarian was instructed to tender the thanks of the Society to Professor Harris for his valuable gift. It being late, the reading of Professor White's essay was postponed to the following Tuesday.

On motion, the meeting adjourned.

For the Dental News Letter.

AMALGAM FOR PLUGGING TEETH.

BY J. D. WHITE.

We remarked, in a series of papers on plugging teeth, published in the Dental News Letter some years ago, that we did not intend to enter the field of discussion on the merits of this substance for plugging teeth, nor do we now intend so to do; but, lest our silence on the subject, now that it is again being employed by a great number in the profession, might be construed into favoring its use, we have a few words to say, that our professional brethren may know where we stand; and more especially as we have been called upon by our distinguished friend, Prof. Townsend, "to come up to the mark with as little reserve as he, and back square out of a mistake which he has been publicly pledged for." We should not have kept some of the profession ignorant of our views up to this time, had it not been for want of room in our last journal. This will doubtless be a sufficient answer to those who have inquired of us why we did not give our views on the subject at that time, and who have sent to us to know what we thought of it before they would consent to use it. We confess we know nothing about the new amalgam, as it is called, nor do its advocates, except that it is prepared with more care than the old, and will not discolor as rapidly in the mouth. The time has been too short since this new preparation has been used to say much for it, (since September, 1854,) but as cases of the old have been cited that have lasted for twenty years, to prove its great and heretofore unappreciated value, we should infer that there is nothing better claimed for it. It is difficult for us to see how it is to be of great, or any value to the profession, when we are told that "there is no time saved to the dentist," and "requires as nice skill in the preparation of the cavity, as great care in the preparation of the material, and as much dexterity of manipulation in using it as are required in the employment of gold for the purpose." What does all this mean? *has a Daniel come to judgment?*

Considerable discussion has already taken place before the Pennsylvania Society of Dentists on the subject, but about which we have nothing to say, as it explains itself. It is remarkable what an effulgent light has recently burst in upon the minds of some of our distinguished members of the profession. Keep cool, take a little more time, and remember the fate of a former improvement of the same preparation, with *cadmium*. We have had a few opportunities already to witness dissatisfaction where the new amalgam was used, and of the old we have seen cases too numerous to mention. We will take time

here to give a few cases which may throw some new light on this subject, and which have doubtless escaped observation on the part of the advocates of the new preparation, as well as the heretofore long undiscovered merits of the old. An intelligent lady, Mrs. M., applied to us about five years ago to have some operations upon her teeth. She wore a partial upper set of teeth, placed in over the roots, as it was deemed by her dentist an injury to the natural expression of the mouth to extract roots for the preparation of it for setting artificial teeth. It was contended by her operator that the scientific dentist did not mutilate the mouth to restore lost teeth, that the roots were plugged with amalgam, and thus preserved for life. This gentleman founded the superiority of his judgment and practice upon the fact that he was a medically educated dentist. Yet we are told that we must not take the occasional use of this material by the educated portion of the profession as a license for its indiscriminate use by the quack. This lady's health declined; she became old in appearance much more rapidly than is usual at her age—then about thirty. She was constantly troubled with the sick headache—not an uncommon thing, however, with many persons. She suffered from neuralgia and numerous ailments; her health was at all times unaccountably affected; she became emaciated and lost her natural color; her face presented a peculiarly pale blue cast, the cause of which was not suspected. We observed that the gums presented an extremely blue and spongy appearance, and which extended to the lips and diffused itself over the whole face. Every root was filled with the amalgam, as well as some remaining teeth. We advised the extraction of the roots, as well as the removal of all amalgam from the teeth. After some delay, this course was agreed to. The mouth, in a short time, resumed a healthful appearance; the gums became of a natural redness; the lips regained their former vermilion, and her cheeks their flush; in short, her health was restored. The close connection between those circumstances forced every one acquainted with the case, to the conclusion that this great evulsion in her health was due to the amalgam.

A gentleman, from the same operator, had a number of large fillings in his teeth, in cavities which were too large to be filled with gold. He applied to us for other operations. We observed the same blueness in his gums as that referred to above, and extending to the lips and face, as if the patient was affected with partial asphyxia. We advised the removal of the amalgam, which was agreed to, and the teeth were filled with gold. In less than one year, without any undue attention to the mouth, the gums lost their blueness and sponginess,

and the 'patient remarked to us a short time since, that he had not enjoyed such good health for many years, nor had his mouth been so well. His face is fresher in color, and he attributes the change in his health to the change in the material used for plugging his teeth.

We will give another case presenting a different aspect. A lady, about thirty years of age, of nervous sanguine temperament, (the two cases cited above were patients of the bilious sanguine;) she had one large plug only, placed in a buccal cavity of the first inferior molar. In the course of a few months the whole of that side of the face became affected by an eruption or *eczema*. She applied to her medical adviser for relief, who regarded it as simple *eczema*, as she did not suspect the cause of it, and was treated for some time without any marked benefit. At length her medical adviser regarded it as due to some specific exciting cause; examined her mouth, and at once determined it to be *eczema mercuriale*. The brother of the lady applied to us to receive her as a patient, which we did. The amalgam was removed, and in about one year the affection disappeared, but not without a great deal of treatment.

These cases cited occurred to patients among and belonging to large connections of education and in the higher walks of life, and among them the use of mercury as a component part of a material for plugging teeth, has received a severe reprehension.

For the Dental News Letter.

A NEW METHOD OF TURNING THE PLATE OVER THE EDGES OF THE GUMS OF ARTIFICIAL TEETH.

BY WM. C. KELLUM, OF SACRAMENTO CITY, CALIFORNIA.

We have received an interesting communication on the above subject, by Dr. Kellum, with a number of casts to illustrate the method but for want of space we are deprived from publishing.

He says, "I have improved somewhat upon the process of obtaining the zinc model for turning the plate over the points of the gums of teeth; instead of pouring plaster in the muffle and then moulding in sand: first, paint the plate well wherever the zinc may touch it with whiting, mixed to a proper consistency with water; then make a muffle of half sand, drying it thoroughly, and cast the zinc into it while it is still hot from drying, by casting the mould half full and allowing it to granulate sufficiently at the edges to prevent disturbing the lower surface, then stirring it around until it hardens, and then pouring it full prevents all shrinkage of the zinc." He says, "I am indebted to D

Knowles, of San Francisco, for the above process in using zinc, and for which I feel much indebted." He says further, "the advantages claimed by this invention are : first, a tooth can never chew off, as the resistance is all on the points of the gums instead of on the talons. I have made almost all of my plates in this way for two years, and never had a tooth to chew off. Second, the plate can be run higher up on the outside of the gum without irritating the ligaments that unite the cheeks and gums, as it leaves the plate round and smooth for them to play over. These are the main advantages, besides a finished appearance of the work."

"*Process.*—First, fit the plate and teeth as usual, leaving the plate long enough on the outside to turn over the points of the gums ; then muffle the plate and teeth." Here, as we understand it, plaster is poured into the side of the plate next to the gum, and to extend over the outside of the teeth nearly as low down as to their cutting edges. "Then back the teeth and take a thorough impression in wax ; then let it harden before removing it ; then cut down the plaster outside of the teeth, leaving as much of it remain towards the edges of the gum, as the plate is to be turned over ; then remove the wax and teeth together ; then thoroughly oil the plaster and plate and wind a strip of paper or any thing else about it and pour in the plaster ; then, when it is hard, cut away until you expose the points of the gum which you intend the inverted edge of the plate to cover, as the teeth are now embedded in plaster and in their proper position, and the moulds can be taken apart. If any of the points should break off they can be put on with a solution of shellac. Then cut, varnish and mould in sand, after which strike the zinc into lead until stretched as much as it contracted in cooling ; then screw the zinc and plaster casts together in a large vice and turn the edge of the plate over the edges of the gums. If the plate should not fit the edges of the teeth, it can be readily made to do so with a small-nosed plyers. Then rivet a strong steel stretcher, arched from one wing of the plate to the other, springing the plate up about the thickness of a thin wafer ; then, when you muffle your plate and teeth for final soldering, embed your stretcher also, and your plate will come out a correct fit of the original cast, as it overcomes the contraction of the soldering and prevents the plate from springing. If the plate should have sprung in the least, cut down your cast to fit inside of the teeth ; make a zinc one, and strike it up on the old male model." This process may be applied to partial as well as whole sets of teeth. The models, as well as a beautiful and finished piece of workmanship of an entire upper set of teeth, can be

seen at the Dental Depot, No. 116 Arch street. We are in the habit of making the same kind of turn over of the plate in a shorter and more simple way. We build up on the outside of our plaster cast, either with a layer of plaster or wax, a projection as much as we intend to turn the plate over the edge of the gum, and strike up the plate with an inverted edge at once and fit the teeth down upon it as a base, and proceed to soldering, when it is in setting single gum teeth, or place the blocks on the rim turned up and bend it to fit inequalities, as the case may be. But, inasmuch as it is frequently true that we wish the edge of our plate to extend up into the fossa between the canine and front teeth, we solder a narrow strip on the plate below its edge corresponding to the length of the gums of the artificial teeth, and if, by settling of the gum, the edge of the plate cuts the integuments, we file it off, as it may from time to time require, while in the other process, if we allow the plate to extend up as far as the union of the lips and gums will admit of, when first the operation is placed in the mouth, we cannot file off without spoiling our work. And again, as it is frequently necessary to make the edge of the plate very crooked, it is difficult to manage the turned-up edge of the plate. J. D. W.

SPRINGING OF PLATES.

DEAR NEWS LETTER.—If you deem the following note worthy of your notice, you may give it room in your pages.

To avoid *springing* my plates in soldering, I am particular to keep *both surfaces* of the plate as much as possible uncovered by the plaster and sand. If this precaution is observed, expansion and contraction have at least an opportunity of proceeding equally and simultaneously from both surfaces; the investing plaster and sand have also a chance of contracting without affecting the plate; and what is better than all, the *plate* itself has a very good chance of coming out with little or no change in its shape; at any rate such has been my experience.

I prepare the case for soldering by applying softened wax so as to allow the plaster and sand to barely embrace the alveolar rim of the plate, or so much only as is necessary to confine together the teeth and plate securely. By moulding the wax up in front of the teeth, with the necessary space between the teeth and wax, a sort of cup is formed into which the plaster and sand are poured. After these are hardened and the wax removed, the case is fastened to a piece of charcoal, hollowed for the purpose, and soldered. When the soldering is completed, the case is turned on its side on the coal in order to expose both sides to the air, and being covered with an earthen or other vessel, it is left to cool.

EXTRACTS FROM AN INTRODUCTORY LECTURE.

BY PROF. WHITE.

We make some extracts from an Introductory Lecture by Professor White, delivered before the class of the Philadelphia College of Dental Surgery, session 1855-6, believing they will prove interesting, containing as they do, some truisms which are well worthy consideration.

J. R. M'C.

“We cannot hope for an *identity* among the great community of interests or pursuits of life, if we do not establish and assert for ourselves some unwavering and independent principle of action. We propose to be dentists: How do we expect to obtain that identity? I would answer, by directing attention to every thing in science and in art that would seem to be of value to us, and in keeping our minds concentrated upon every principle and result that can help to identify us as a distinct family in the great group of human pursuits. * * *

“Ours is a demonstrative science, and what one can do, so can another—circumstances being equal—and we must free it, as much as possible, from what it is much trammelled with at present, men’s opinions, founded upon vague and uncertain experiments. We cannot in our profession adopt, with propriety, a favorite opinion or belief, as in morals or religion, because the nature of our operations are all closely connected with the laws of the *physical economy*, and we must look well to the matter as to whether we are operating at all times in harmony with those laws; for, as the laws of nature are truthful, so should the methods of operating adopted by us be well understood and alike truthful. At this period, perhaps more than at any former time, differences of opinion in practice disturb the current of instruction to the young learner; and there is great reason for us to be cautious what we adopt as sound teachings; we have no right to *think* and *do* as we please in our profession, as in other things, and be respected; it is a *despotism* as to how we shall practice, but a *republic* as to what we have a right to learn and to know. * * * *

“It has been said by one, ‘beware of false facts,’ therefore when a suggestion is made, or a new mode of practice proposed, learn to withhold your opinions while it is undergoing due trial, and the test of time; do not settle down to convictions without fully satisfying ourselves by scientific and practical experiments, the truthfulness of our conclusions. Opinions arrived at without such tests, beget the wildest prejudices, which too often shut off further investigation. * *

"With regard to a proper method of treating the nervous pulp, you will be required to dwell long and closely upon what is urged in principle and reported in practice, before you will be capable of arriving at a system of your own, that will ensure a clear conscience as to whether you are doing your best duty to your patient. * * * *

"It seems to be more a propensity of the mind to be prolific in suggestions, rather than to hold fast to that which is known to be good; this seems to be characteristic of the dentists of the present day, for scarcely has a new idea had birth, than a thousand and one suggestions are made to rob the original of its form, before it has been properly developed; and thus the student, as well as the old practitioner, without the compass of science to direct his course, is carried along amidst the haze of doubt, without discovering any reliable or practical truth."

For the Dental News Letter.

TEMPORARY FILLINGS.

TO THE EDITORS OF THE NEWS LETTER:—In my case book, under date of December 10, 1853, I find the following notes of an operation which may perhaps afford some interest to your readers:

"Right superior central incisor, with a filling on the lingual surface. Tooth slightly discolored but not painful; patient fears the filling is not perfect and wishes it removed; it is one which Professor Arthur inserted four or five years since, intending it merely as a temporary filling, on account of the disease having nearly reached the pulp cavity, which was only protected by a thin lamina of softened bone, there being extreme tenderness, and the patient a youth, scarcely permitting the slightest attempts at excavation. The patient never came under the hands of Professor A. again, and thus the filling remained, perfectly sound and giving no trouble; removed it and found a dark granular mass occupying that portion of the cavity between the filling and the bottom of the cavity; there was very little decay elsewhere, and no tenderness except near the edge, where there was a portion of the dentine softened. The "thin lamina of softened bone" had undergone a change; had become *perfectly solid*, and had every appearance of being newly formed. In color, it was *whiter* than the dentine forming the walls of the cavity, and on tapping it lightly with an instrument gave a sound as if striking on enamel. Inserted a filling without giving any pain at all, using every endeavor from the beginning, to make it as solid as possible. The left central and both lateral incisors, superior, were similarly affected, and treated by Professor A.

but as there was no discoloration or other cause for their removal, they were not disturbed. At some future time I may remove one of these remaining fillings, and will "make a note of" its appearance.

I have performed this operation in a limited number of cases—some fifteen or twenty—and thus far have succeeded in all but two or three.

A. B. WILLIAMS.

For the Dental News Letter

COMBINATION SOLDERING LAMP.

MESSRS. JONES, WHITE & McCURDY:—*Gentlemen*—Permit me to call your attention, and that of the readers of your truly practical journal, to a little invention which is the result of a desire to partially avoid the usual hunt for things wanted among the mixed multitude of indispensables on a dentist's bench, and to combine in as small compass as practicable many of the conveniences for soldering. How far I have succeeded, a brief description of the article will enable you to judge. We will name it a "Combination Soldering Lamp." The form, an irregular oval; at one end are a large and a small tube for wicks, with extinguishers joined together. Extinguishing the large flame lights the small wick, which relights the large one the instant the extinguisher is removed. This alone is a great convenience, saving time and alcohol, and dispensing with the use of a small lamp. At the other end of the lamp is a semi-circular cup for water, in which to immerse plate after annealing, to wet the borax, &c. This cup has an outlet at the bottom fitted with a cork. On top is fastened a slate for borax, and apartments for solder. On one side, a match box, so made as to replace the sand paper easily. On the other side is a mouth for the reception of alcohol or oil, to which a large cork is fitted. The whole occupying no more space than a common soldering lamp.

The commendations and suggestions from those standing high in the profession have induced me to make this article more generally known.

I will endeavor to supply you with them in a few days.

Respectfully yours,

T. J. HASKELL, Dentist.

Philadelphia, December, 1855.

Fomentations and poultices lessen inflammation when too violent, and hasten suppurative and ulcerative processes.

Where an abscess is opened or a wound is produced, which cannot be healed by the adhesive process, the best application for exciting the growth of granulations, is a moderately warm poultice.—*Blister & caustic.*

THE DENTAL NEWS LETTER.

JANUARY, 1856.

DYNAMOMETER.

The instrument which we have been using for the purpose of experimenting on the subject of the condensation of gold foil and crystal gold, is made by extending a beam or shaft through a common spring balance, of the stores, which draws fifty pounds. This shaft is fastened to the spring instead of the wire, which is used in these balances. The shaft is left extended above the plate of the instrument sufficiently to allow of free motion, and on the upper extremity there is a small vice firmly attached and into which a small iron ingot can be fastened at pleasure. This shaft is held in its position, when pressure is made, by a plate through which it passes at either end of the scale-plate of this common balance, and instead of its being pulled at as in weighing articles by the shop keeper, it is pushed upon from the upper extremity, and of course, registers the weight on the old scale-plate; the difference is, therefore, only between pushing and pulling. Near the ingot is placed a graduating rest for the thumb or finger of the operator, so that he can operate on the ingot, and imitate nearly all the positions assumed while operating on the mouth. Thus testing very well the amount of force he is capable of exerting in those different attitudes of the hand, except that he can affect much more pressure on the instrument than upon the mouth, which we will hereafter show. It is believed by many operators that as much force can be applied in plugging teeth with the instrument held between the fingers, as if it be grasped in the hand. This is not so. The greatest amount that we can apply on the dynamometer with the instrument in the fingers, from twelve to eighteen pounds, while if we grasp the instrument in the hand and let the end of the handle rest against the palm, near the wrist, we can with much less bodily effort exert fifty pounds, and this relative proportion is kept up when operating on the mouth. It is true that a good plug can be made by using the instrument in this way, but it is at a much greater expenditure of labor and time than if the instrument be larger and held in the hand. In operating upon the lateral surfaces of teeth, there is seldom a greater force exerted

than from five to ten pounds, that is direct forward force. The amount of force lost by the yielding character of the parts operated upon, and lateral support given to the instrument in precaution against slipping, has never been estimated by the operator as lost; in other words, the great efforts of the operator are so distributed as to deceive him as to the amount transmitted to the condensing point of the instrument. The many complaints of the broken-down dentists, after a few years' constant and hard operating, and the weeks, and even months of relaxation taken by some of them in warm weather, makes this a matter worthy of serious reflection by every member of the profession. A certain amount of pressure is absolutely essential for condensing gold, and must be employed by one as well as the other, and if only five pounds is effected by the one, and ten by the other, it counts in time against the one only employing five; and again, a plug that is made with a five or ten pounds pressure, and feels to be condensed under the operator's instrument, will very readily be crushed by a greater pressure with an instrument with the same condensing surface. The great length of time consumed in properly condensing a plug with a small instrument, and used under disadvantage, makes the operation of plugging a tooth too expensive to be within the reach of many persons to pay; besides, it limits the operator to a very few operations per day.

The dentist should learn, as one of the most important features in his skill in plugging teeth, to operate from the shoulder, and the instrument grasped full in the hand, as all the strength used to hold on to it, to prevent it slipping through his fingers, is lost to its condensing point and to the shoulder. We know a number of operators who fully appreciate the necessity of a proper condensation of a plug, but exhaust their strength in doing it. This should not be. We have so another instrument for testing the amount of pressure that is usually made in operating on the mouth, and which can be applied to own cavities in the superior molars. It is about nine inches long, and can be understood by referring to the accompanying cut, which is reduced to about half size.

A is the condensing point or bit, in a socket, so that any size may be used. *B* is the shaft, and on which the scale is marked, to register the amount of force applied to the instrument. *C* is a hollow cylinder in which the spring is contained. When the extremity of the shaft is depressed, the opposite extremity runs into the handle *D*, which is hollow to receive it. It is with this instrument that we have rectified the very erroneous idea we entertained heretofore with

regard to the amount of direct pressure we supposed we were in the habit of exerting upon a plug in the mouth, as well as the amount of pressure different patients and teeth can bear. It is a difficult matter for us to apply more than ten or twelve pounds of pressure on a superior molar of a patient of that many years of age, or a nervous and yielding patient. We never use two hundred pounds and over, in these delicate cases; but when we have an older patient, or a hard head and stiff neck, and a molar well set in a well developed jaw, and the patient firmly seated in the chair, we can apply as much as twenty-five, and even in some cases thirty pounds; this we venture when the plug is nearly done, otherwise we would fear thrusting the plugger through the tooth. A friend of ours said he thought he was in the habit of applying from sixty to eighty pounds pressure. We sent him the instrument; he applied it to a plug in the crown of a superior molar, and at twenty-five pounds the point of the instrument penetrated the plug, as he said, about the thirtieth of an inch. In experimenting on plugs out of the mouth, in teeth that we have extracted, we have not found any plugs that would bear thirty pounds, very few more than fifteen, some not ten; in fact, every plug that we have tried were at best mere sponges, comparatively. Many of those plugs, when made and dry, would doubtless have borne a much greater pressure without giving way, but such is the influence of moisture, or something else, that they are easily penetrated by the instrument after they are worn some time. It is extremely exhausting for an operator to keep up a prolonged pressure of from fifteen to twenty pounds upon a crown plug of a molar tooth. We will continue our article in the next News Letter, and especially on the *cylindrically* prepared gold.



J. D. W.

Obituary.—We regret to announce the decease of Dr. S. I. Thatcher of Wilmington, Delaware, who died very suddenly, September 28, 1855. With the deceased we were very familiar; and we can say with great truthfulness, that a more honorable man, or one more devoted to his profession, (dentistry,) we never met with. His loss will be greatly felt among a large circle of patrons and friends.

J. R. M'C

Local Anæsthesia.—We have seen and conversed with Dr. Branch, of Galena, who has called our attention to the following notices, published in the Galena Daily Advertiser, and Weekly Northwestern Gazette. He states further, that he has tested it in nearly two hundred instances, and finds that it more than meets his expectations. He is now in New York, having manufactured the apparatus necessary for its use, which, when completed in sufficient number, will be offered to the profession, together with proper instructions for its use. We have strong hopes it will prove to be all that it promises; we have not witnessed any operation performed under its influence, but from our knowledge of the man and circumstances connected with it, we are led to expect something really useful in connection with it: we are assured that delays in the mechanical portion have prevented a demonstration of its effects in time for us to speak more positively in this number. He says he anticipates that in two weeks he shall be ready to demonstrate its power and offer it to the profession generally.

The editor of the Advertiser says:

New Anæsthetic Agent.—The following communication of Dr. Branch, in relation to the application of a new anæsthetic agent, which he has used successfully in preventing pain in dental operations, will attract the attention, certainly of the humane and the suffering. Our personal knowledge of the matter is limited to a particular case, where a friend of ours was relieved, and where the effects appeared to warrant all that is claimed for it by Dr. B., as a uniform rule. From all we know, we are led to hope much from it. But, it is one of these matters around which doubts cannot long hang, for we conclude that when a man having a tooth pulled, declares that the operation is accompanied by no pain, his testimony should be taken as valid in all charity, though he be not under oath.

Is it True?—*Mr. Editor:*—Will you allow me to answer through your paper the many questions propounded to me in reference to the success of the new agent for producing insensibility to pain, or rather doing away with the pain of dental operations. Those questions are—Is it True? Will it do it? Are you humbugging? &c.

As to the first two questions, I will answer them by quotations from what my patients have said of it. One lady, the first case I used it in, July 27th, said of the extracting of six strongly rooted teeth: "all the suffering experienced was fear that it would hurt."

A little girl six or seven years old, having a large double tooth extracted, though persuaded in every way to tell exactly how it was, asserted and reasserted that "it did not hurt a bit."

Another, a lady, said "I did not know it was out."

Another, a man, who was told if it succeeded he would be charged a fee for its use, if not he would not, (this was a large, long-rooted wisdom tooth,) said when through, "I am perfectly satisfied, and willing to pay the extra fee," and paid it accordingly, notwithstanding he was under no obligations to do so, except on the above conditions, &c., &c.

Those are the facts on which I build my advertisement of its application.

If any wishing operations performed by me, doubt the above, they can have reference to the individuals or their friends.

As for humbug, I wish to live by other means; if this is *humbug*, I hope my patients will always humbug me in the same way, by telling me and others that I don't hurt them when I extract their teeth.

As to its safety, there is no possible chance of doing injury with it, except that which might result from ignorance and carelessness.

As to its discovery, I claim my own compound, apparatus and manner of using it. Also, *as far as I know*, its first successful use in dental operations.

Very respectfully yours,

I. B. BRANCH, *Dentist*,

No. 85 Main street.

Galena, August 2, 1855.

Then follows another of a later date, which says:

"Painful as pulling teeth," will soon cease to be a proverb. The new application of Dr. Branch, in preventing pain in the most difficult cases of tooth-drawing, works like a charm, as far as we are able to learn. A gentleman called on us on Saturday, who had just been relieved by the process, of a deeply rooted grinder, which had become highly inflamed, and like all aching teeth, about "as painful as it could be." He informed us that scarce a twinge of pain attended the extraction. That the application will become universal in such cases, hardly admits of a doubt, and as it is perfectly safe, we do not see why it will not answer a similar benevolent purpose in most cases of surgery.

J. R. M'C.

Crystallized Gold.—We would solicit a careful reading of the communication on this subject from the manufacturers, which will be found in our pages. As some things have been said in our journal rather condemnatory of the article in question, we therefore the more cheerfully make room for it, that we may not be considered the opponents of crystal gold, and that both sides may be heard.

J. R. M'C.

Gutta Percha.—The very recent introduction of this substance into dentistry in this country, as a substitute for metallic plates on which to mount teeth, has opened a new field, and one claiming the attention of every dental practitioner. If it is practicable only to the degree proposed by its author, viz.—for temporary sets—it assumes an importance at once which cannot be overlooked, and that it is available to this extent we have no reason to doubt, judging from the nature of the material itself and the experience that has already been had with it, all of which, to our mind, afford a strong evidence of its adaptedness to the end proposed. Add to this the very great comfort it must necessarily be to the *wearer* when compared to a metallic substance, to say nothing of the economy in time and expense to the operator, and we have advantages which we think must be hailed with pleasure by every one, and which, if the test of time does not subvert, renders the substance a valuable adjunct to the mechanical dentist and a welcome relief to those compelled to wear artificial teeth.

Now we may ask the question, if it may be made so useful for temporary purposes, and the material itself will not lose its integrity, or be affected in any wise by the secretions of the mouth, as we have been assured, and, indeed, have some evidence that it will not, why may it not be applicable for permanent work in many cases?

We leave this question with those disposed to test the matter fairly and to time, anticipating, however, an affirmative answer. J. R. M'C.

Moveable or Shifting Plane for Impression Cups.—Dr. H. G. Luther, of New York city, has sent us an apparatus consisting of a moveable attachment to be applied to ordinary impression cups, and which he terms “Luther’s Mouth-cup Attachments.”

It is in the form of a moveable plane, by which additional height is obtained in the centre of the cup, when required, as in the case of a very deep mouth.

This is not a new thing, as it will be found described in the Dental News Letter for April, 1848, and was offered to the profession at that time as an accompaniment to “Gilbert’s Central Cavity Plate.”

Amalgam.—The same gentleman sends us the following recipe for an amalgam. What his opportunities may have been for testing this substance, or the basis on which he founds the peculiar merits claimed for it, he does not inform us. We quote his own words. J. R. M'C.

“Here is my formula for a paste or amalgam which makes a hard and durable filling and will not corrode or turn black.

“I melt two ounces cadmium and add one ounce pure tin; mix it

well and cool; then file it and extract the iron or steel with a magnet. To this compound I add an equal quantity of precipitated silver. Combine them well and add quicksilver q. s.; wash clean with alcohol and extract by pressure all the mercury possible, and use as expeditiously as possible. This I have found, in all cases, to answer better than any amalgam that has come to my notice. Its component parts are—

Silver,	-	-	-	-	-	-	-	parts 3
Cadmium,	-	-	-	-	-	-	-	" 2
Tin,	-	-	-	-	-	-	-	" 1

H. G. LUTHER."

Dr. S. T. Beale.—It is with pleasure we announce the release of this gentleman from what we have always considered an unjust imprisonment.

The governor, in his "pardon," but expresses the prevailing opinion when he says "I am now satisfied that the defendant, Dr. S. T. Beale, is not guilty of the crime whereof he stands charged, and was convicted upon evidence unreliable in its character and insufficient in amount."

Under the circumstances, however, it does appear to us that the word "pardon" is a misnomer, and that his liberation was not an act of clemency but one of *justice*. But we are not disposed to cavil at terms, so justice be done and the doctor be placed, *as he now is*, in his former position, that of a respectable and an honorable dental practitioner.

For indemnity for the confinement and consequent suffering, he may, we think, look with certainty to the public, who will, we are sure, manifest their confidence and sympathy by a liberal patronage.

J. R. M'C.

Parisian Exhibition.—As a pendant to the communication on the French exhibition, in the present issue, we give the awards made to American exhibitors in the Dental Department.

Second premium to Drs. Fowler & Preterre, formerly of New York, now of Paris, for "Dentistry."

Third premium to Dr. N. W. Kingsley, of New York, for "Dentistry."

Third premium to Jones, White & McCurdy for "Artificial Teeth."
(Who are they to thank for this great honor?)

Third premium to T. Ross, formerly of New York, now we believe of Paris, for "Dentistry."

J. R. M'C.

The Principles and Practice of Dental Surgery. By CHAPIN A. HARRIS, M. D., D. D. S., etc. *Sixth edition, enlarged and improved.* Philadelphia: Lindsay & Blakiston, 1855. pp. 818.—This book has now reached a sixth edition, and within comparatively a few years. Its rapid sale, as indicated by the repeated demand for new editions, is evidence of the estimate placed upon it by the profession, and we have the additional evidence of its worth in the fact that it is authority at home and abroad.

As to the improvements in this edition, we quote from the preface:

“In preparing for the press a sixth edition, the author deems it necessary to say that the work, subsequently to the publication of the last preceding edition, has been thoroughly revised, and all new discoveries and improvements, up to the present time, both in theory and practice, carefully added to it.”

It is gotten up in the usual handsome and substantial manner of the publishers.

J. R. M'C.

A Manual of Dental Economy, or Practical Instruction on the Physiology and the Treatment of Teeth, etc., etc. By Dr. CHARLES S. ROWELL, Surgeon Dentist, New York. Charles Scribner, New York, 1855. pp. 158.—This is a neat little work, designed more especially, we presume, for the general reader. It is clearly written, not speculative but practical, and the various subjects are treated under appropriate heads.

We can commend it with great confidence to the public, feeling assured that the time spent in its perusal will be profitably employed.

J. R. M'C.

See Cover—For notices of Slayton's Gutta Percha Base; awards of Gold Medals; advertisement of Practice for Sale.

We would call attention to the advertisement on cover, of a dental partnership wanted; we know the gentleman well, and feel confident that any one desiring an association of the kind, could not find a more suitable person to be connected with.

J. R. M'C.

Temporary Enlargement.—In consequence of a press of interesting matter, all of which we desire to lay before our readers, we have added to the present issue *sixteen pages*, which makes a number of eighty pages. Thus, as matter accumulates, we give it by adding extra pages.

J. R. M'C.

EXTRACTS FROM THE DENTAL PERIODICALS.

We purpose giving in each issue of our journal, liberal extracts of suitable character and appropriateness, from the different dental periodicals of the day, and shall therefore keep up a department especially devoted to this purpose.

J. R. M'C.

"*American Journal of Dental Science*," for October.—In this issue we have, first, an original article on Local Anæsthesia by Congelation in Dental Surgery, by J. Richard Quinton, London.

At the outset the writer refers to the adverse sentiments entertained on the subject of anæsthesia by dental writers in our own country, then goes on to speak of the painfulness of tooth extraction and the terror it has to most persons, and why such pain should not be spared, and asks, "Has humanity departed from our art?" and answers, "We do not believe it. We believe that our dentists do not find in etherization an unmixed good." He then refers to the numerous appliances necessary where etherization is contemplated, such as "sponges and cold water, diffusible stimulants, jars of oxygen gas, galvanic batteries," &c., and last, though not least, "the patients medical adviser;" then goes on to discuss the question—"is it justifiable to administer chloroform in dentistry,"—in which he remarks that, in his own or competent hands, he has very little apprehension, yet "several considerations present themselves," such as the briefness of the pain in the extraction of a tooth, the absence of danger, etc., all of which brings him to the conclusion that it is of doubtful policy in such cases "to resort to an agent to produce insensibility, which may result in loss of life," etc. He then comes to the subject under especial consideration, viz. : "*The anæsthetic application of intense cold.*"

After referring to the method originally proposed by Dr. Arnst for general surgery and its inapplicability to dentistry, he gives the result of a series of experiments made by Mr. Blundell and himself, by which they are enabled, by a "*fluid medium*," to produce a "temperature varying of from 20° above to 40°, or lower, below zero, (Fahr.,)" and by which they are enabled "to keep and apply an *unalterable temperature* to any given surface." But by actual experiment, he found that while it answered admirably for dead teeth or roots, the application of such intense cold to living teeth produced such excruciating pain as to make its employment "both cruel and impracticable." He found that "the temperature must be diminished by a slow gradation until the maximum degree required is arrived at." This was finally accomplished, "and the gratifying result was not only the

*painless extraction of the tooth, but the *painless application of the cold.**"

As to the instrument by which the application is made, he says :

"An apparatus was constructed, consisting of a reservoir for the cooled fluid or freezing mixture, with tubes to conduct the fluid, through a membranous mouth-piece, adjusted over and around the tooth, and stop-cocks to regulate the flow. With this apparatus we commenced to operate, and with such signal success as to encourage the prosecution of the new method up to its present complete state."

As to the substances employed to produce the freezing mixture, ("by the chemical action of various salts upon finely powdered ice or snow,") and its application, he says :

"Suppose the reservoir to contain a due admixture of pounded ice and salt, the temperature of which is zero. Let the fluid traverse in its course a vessel of warm water, a mutual diffusion of temperatures takes place, and the result is that a gradual diminution of temperature will be gained at will from any degree of the thermometer down to zero."

As to instrument we again quote :

"No part of the apparatus was so difficult of contrivance as that intended to surround the tooth. *Tenuity* was needed in order to conduct with sufficient readiness the temperature of the cooling fluid to the part to be benumbed ; *flexibility* was essential to its perfect adaptation to the varying forms of the teeth and gums ; *impermeability* was required to prevent the contained fluid issuing into the mouth or down the esophagus ; while a certain elasticity, or resistance of pressure, was necessary to prevent a rupture of the reservoir, either by the force of the current or by coming in contact with roughened points or tubercles of the teeth. All membranous structures, like those of animals' stomachs or intestines, are open to the fatal objection that they become pervious in parts where the blood-vessels ramify, as well as that throughout their whole surface they allow of exosmosis. Whenever these were used, the patient always could taste the saline character of the freezing mixture, which should not and, upon my plan, does not occur. Membranes, whether taken from a "fowl's stomach," a "pork sausage," or the "intestine of a rat," while they are flexible, are neither very attenuated nor impermeable, nor elastic, nor, it may be added, of very refined taste. After trying almost every known material, I at length succeeded in making a preparation of India rubber from a solution in chloroform, out of which exceedingly attenuated, almost transparent tubes of any size are made, having all the essential properties above referred to."

He then gives the *modus operandi* whereby the anæsthetic effect of cold is produced, and adds, "I hope to be able to lay before the profession the results of my experiments and experience on the power of conduction, possessed by such structures as those of the teeth in an-

other paper, which may serve as some guide in the practical application of this new anæsthetic." After adducing many testimonials as to its effectiveness, he comes to the following conclusions :

"I. That congelation, by the process I adopt, is efficient for the painless extraction of teeth ; or, if not in all cases effecting absolute painlessness, that it so far mitigates the suffering as to deprive the operation of its ordinary repulsiveness.

"II. That the peculiar process of congelation, by which this immunity from suffering is accomplished, is itself unattended with pain or inconvenience.

"III. That no untoward results accrue from this process of congelation, either local or general. On the contrary, that patients generally enjoy an immunity from the exhaustion usually succeeding tooth-extraction.

"IV. That this method is pre-eminently applicable to cases of stumps, the extraction of which is ordinarily so difficult and painful.

"V. That the benumbing effect of congelation is often useful in dissipating tooth-ache.

"VI. That congelation is infinitely superior to etherization in dental practice, in effecting the same humane purpose with immunity from the natural dread and inconvenience of the loss of consciousness, immunity from alleged possible constitutional effects of chloroform, and immunity from the possible loss of life."

We hope some experiments in this direction may be made by the profession here, and the results made public.

In a continued article on "*Causes of Dental Deformities, etc.*," by J. L. Levison, D. D. S., the writer traces out the various imperfections, mental and physical, which show themselves in the progeny of intemperate, unhealthy or diseased parents, and which he illustrates by cases which have come under his own observation, and alludes especially to "cases of chronic tooth-ache, arising from the unnatural pressure of crowded teeth, so closely compacted within the arches of the *alveoli* in the jaws, so as to induce a constant inflammatory action." A couple of these cases he corrected by dividing, in the one case, "every two teeth, making just enough space to admit a piece of thread to pass without resistance or obstruction," and in the other by "separating a half dozen in each jaw."

Pathology of the Mouth, by S. A. T.—In this paper the writer alludes to "the neglect which the diseases of the mouth have experienced at the hands of physicians," and says, "dentists are so absorbed in the consideration of the malformations and disorders of the teeth, that they do not pay that attention to the mouth in general which the importance of its disturbances of function and alterations of structure

demand." He then goes on to consider the anatomical and physiological relations of the mouth to the rest of the economy, etc., and says, "let the teeth be defective and mastication, consequently, imperfectly performed, and a much greater burthen will be cast upon the stomach," etc. He then cites various arguments as to the true function of saliva, and the part it plays in digestion.

In an article on "Neuralgia Facial, by T. D. Thompson, D. D. S." we find the relation of a case of great suffering and loss of sight in a lady who had been for weeks under medical treatment without any relief, but who, on the extraction of four roots, viz., left superior cuspid and bicuspid, right superior lateral incisor and left superior second molar, was able to leave her bed in two weeks, but was still under treatment for her sight, which she would probably never recover, which, with the great suffering she endured, in all probability would not have occurred, "had the exciting cause been understood at first, and the roots of the teeth promptly removed."

The Dental Register of the West, for October.—This number commences volume nine, and is considerably increased in size. It opens with two Lectures from Prof. Townsend, originally delivered before the class of the Philadelphia College of Dental Surgery, first session. These lectures are quite pointed and to a degree personal, as, indeed, the treatment of such subjects must necessarily be, and, saving an excessive rigidity and stringency in their requirements, they are well conceived, well timed, and pleasantly written, and must amuse as well as profit the professional reader.

The first is on "The Duties and Proprieties of the Dental Practitioner," from which we make a few extracts illustrative of its character. In speaking of the office or operating room, he says:

"It must be as little like a workshop as possible, and it must not in any degree be converted into a lumber room. It is not the place for a convention of horsewhips, old boots, shot-guns, pamphlets, fragments of the last lunch and ingenious rat traps in progress of construction; nor must it look terrible, for the sake of looking imposing in its array of instruments of torture. Display in *itself* is a vulgarity; in a surgeon or a dentist it is barbarous."

Again, "Your office should have the air and arrangements of a parlor or of a boudoir as nearly as possible, and be kept scrupulously free of the associations arising out of its daily use and offensive service. Its furniture should be rich, neat, simple and free from an encumbering quantity; two chairs at farthest, with an ottoman, and a centre table or books for the entertainment of company. One washstand for your own use, but no jumble of tooth brushes of your own, or other utensils for lazy convenience, when patients are absent. The office must be

dedicated to operations, and guarded against all other uses. It is no place for pictures of yourself with a set of teeth in your fingers, or mantel piece arrangement of artificial teeth, grinning like dissected jaws, at those who are only too conscious that their own are to be cut and carved after a pattern."

In continuation of this subject, we are tempted to place on record here an occurrence related to us by a gentleman of the profession who had called upon a brother practitioner, celebrated for his neatness in house and person, who, while operating, was suddenly alarmed by the appearance of a *fly* in his operating room. He immediately dropped his instrument, and went in pursuit of the unwelcome intruder, which, after a long and arduous chase, was finally captured and dispatched, the operator quietly remarking that he never allowed flies in his house. To which he might add, "Oh! 'tis glorious to have a giant's strength, but tyrannous to use it as a giant."

In alluding to conversation with the patient while operating, we have the following very good advice :

"The theme should never be upon the operator's own manner of performing his manipulations, and his superiority over all others in the known world. No doubt it is all very wonderful, but then every body knows you think so, and you can spare the brag and open egotism of it, without any danger of being charged with undervaluing yourself; and what is far better, you will avoid that most unhandsome and most foolish practice of undervaluing other men in the profession."

We now clip at random, short, pithy sentences, and such as we think must meet with a response from every one :

"Remember that all pretence is vulgar. Avoid the very appearance of it.

"A physician, surgeon or a literary savaⁿ in the chair *is* your patient, and nothing *more*; a gratis patient or a servant is your patient, and nothing *less*.

"As you are not to flatter a distinguished sitter, so you are not to fear him.

"Your praise becomes any other man's mouth better than your own, and if *your* work becomes *their* mouths, their buccinators will blow your trumpet with deserved, acceptable and genuine commendation.

"Mere coarseness and bluntness of nerve is repugnant and offensive indifference is insolent, and presumption is insulting.

"Just *be* right and you will *do* right.

"Add to all this, that out of your office you have no business to recollect that she (your patient) ever was in it, that she has a bad tooth in her head, or that you made the handsomest ones she wears."

The second lecture continues the subject, but toward the las becomes a little more pointed, especially on the subject of "rum an tobacco." And here we must object to the company in which th writer places tobacco, having a slight leaning toward the weed ourselves:

yet the picture he draws almost frightens us. After condemning the practice of making a display of instruments, and urging the necessity of keeping them neat and clean, also of having a full supply of clean towels and napkins, etc., he comes to the following :

"This brings me naturally to the person of the operator, under protest as before, that it is not your speaker, but the *subject* that is personal, with the application all afloat, till the proper person for himself appropriates it.

"The dress of the dentist should always be clean and of a kind that *looks* the character. That cleanliness should always be fresh, too. The coat should be of a material that will wash, and of a color that would *show* dirt and not suspiciously conceal it. The *fact* with its best evidence, for the better assurance of the party concerned. The hair of our sitters is often greased ; the arm necessarily rests upon the head, and the sleeve then contracts a soil and smell that is very offensive to the face of the next patient. If you wear such a dress as will expose the fault, you will always see and correct it. A woollen sleeve is a regular sink for such unrecognized filth, and the *frowzy* smell and touch are sure to apprise the patient of the offence."

In reference to the proper cleanliness, etc., he says :

"Don't clean your nails with your knife in the presence of the patient, and don't *wash* your hands or brush your teeth there, either. Do this in your private room always, washing hands and cleaning nails because they are dirty, don't satisfy any body that they are clean, *there* is the dirty water to disprove it. *Lave* your hands in clean pure water in his presence, that he may see it is *done*, as a lady pours hot water from an urn into a tea cup at the table for further assurance of the guests."

We pass over much that would interest, for want of space, and come at once to the "*nags*," or rum and tobacco :

"I believe I have acquired some reputation as a rather rough rider of these hobbies, and I have, in fact, refrained from mounting them until I could change my dress, and trot them out by themselves. They are nags well known to be *strong-winded*, and hard in the *mouth*, and I think that a dentist ought to handle them with a specially stiff *bit*. They are an ugly pair of matches, illy broken and worse trained, and demand so much of the jockey in their management, that it is very difficult to preserve the manner of a gentleman, through the discipline they require ; and so I thought it was best to bring the brutes out by themselves, for I think they are unfit for any company but their own. The one, you know, is anything but sure-footed, and the other is addicted to a most vicious and villainous *use* of his teeth. In fact, the first is even liable to fits of the staggers ; and the latter, between snuffing, snuffing and frothing at the mouth, is one of the most disagreeable of beasts. Neither of them was ever known to be clean, for nobody would touch either with anything but a whip, till they are completely broken.

"My reason for not showing them up in their place and order in my discourse, is, because they are not fit for any place, and are themselves ways in disorder. I do not know, from either reason or experience,

in what vice or necessity of the human constitution, the indulgence in these narcotics arises. But I *do* know, *both* by reason and experience, that they are unnecessary either to study, labor or enjoyment; and, by the unblunted senses and sentiments of abstinence from their use, I know only too well how noxious and abominable they are."

After speaking of the offensive affluvia arising from the "person and dress" of the segar smoker, he says:

"Extemporaneous washings and brushings in preparation for a visitor or a visit are next to nothing, they deceive nobody but the deceiver, for the foulness is in him, and over and around him, and it is not a lick and a promise that will serve to hide it. I say it is in him, in his blood, and flesh and breath, his skin and hair, beyond the reach of soap and water, too deep for gargles, and too strong for the counter stench of cologne, bay rum or any thing but assafoetida. I am assured by a gentleman who subjected himself to a steam vapor bath, five days after he discontinued chewing, that the whole room was filled with the affluvia which the vapor boiled out of him. The attendant hurried him off to the cold shower bath, and threw up the windows for his own relief."

As an addenda to the event related above, we give the following, as substantiating, beyond the question of a doubt, its truthfulness:—A biped who had acquired the habit of staying out late o' nights, went home as usual, a little in for it, all owing to sundry imbibitions, and in retiring for the night, was very careful to keep his back toward his better half, who, on observing it, remarked, "Oh! you need not be so careful to keep your face away from me, for *you are drunk clean through; I can smell it in your back.*" This, we opine, is confirmation doubly strong of the power of the *absorbents*.

As the closing quotations, we give the following very powerful pictures of the offensiveness of the use of these two articles by the dentist. They are strongly drawn, and we hope will have a beneficial effect:

"Who has not smelled the *double distilled* fumes of whiskey, all the worse for the *last* process of ale, onions, oysters, garlic and tobacco upon the breath. What scavenger work these lungs of ours have to do! and sorry tell-tales they are too. They are vocal as well as respiratory organs you know, but their *loudest* utterings are nothing to the whispers low but deep, which they give out, of our habits regular and irregular.

"Now, please to figure your position at the operating chair. Your patient a delicately decent woman, with her mouth held open as wide as the lips permit, her nerves excited to their utmost keenness, and the operator hanging over her upturned face. A back tooth is to be seen and reached, a constrained position to be maintained by the operator, his face directly opposed, and as near as possible, and directly in the line of the open throat and nostrils, pumping at every stroke of his lungs the foetid breath of a rum sink or a tobacco mash, like a gas

ometer, into her revolted senses ! I say it is hideous, I have no fitting words which it were fit to use in the description of the outrage."

From an article on "Caries of the Teeth," by J. Taft, D. D. S., we make the following brief extracts :

"Caries makes its attack first upon the dentine, and progresses most rapidly in the direction of the tubuli. There are variations from this, an example of which we have in the large superficial caries upon the labial surfaces of the superior incisors. It also in many cases progresses rapidly immediately beneath the enamel

"Dead dentine is decomposed more readily than the living, hence the conclusion that vitality resists caries; and the resistance corresponds with the vigor of that vitality.

"The sensitiveness of the dentine is greatest in teeth affected with the light colored decay. The sensitiveness usually decreases as the color increases. There are exceptions to this. We occasionally find teeth, the decay of which is dark, and yet quite sensitive. The light colored decay is more difficult to arrest than the dark. Dark or black decay is easily arrested, while the white is arrested with much difficulty. Filling, in many cases of this kind seems scarcely to retard the progress of the decay; while in the brown or black decay, by proper filling, the progress of the decay is checked altogether. The cause of the dark color of caries is not perfectly comprehended. It is doubtless a deposit upon the decayed part, and it is most probably a metallic oxide. In the saliva and mucous are found *iron, sodium, potassium* and *calcium*, in several combinations.

"By means of the sensibility, warning is transmitted to the pulp, and it throws out osseous material with increased energy, and thus a process of filling up the natural cavity of the tooth is established, that the decay may not encroach upon the nerve. This warning may be transmitted to the pulp to some extent, though there be no increase of sensibility."

We come next to an article on the "Treatment of Dental Caries when complicated with an irritable or exposed pulp, by Jas. Taylor," which subject he takes up, after an interval of five years, and from which we quote as follows :

"Does the death of the pulp necessarily give us a dead organ throughout its entire structure? This is an important question, and on its proper solution we should be governed in the treatment of these organs. If the death of the pulp only involves the loss of the vitality of the dentine, we may with propriety try to arrest the further progress of the disease. If, however, it involves loss of vitality in the cementum, the question arises, will the periosteum maintain its connection with the dead osseous structure? What evidence have we that the alveola dental membrane supplies nourishment and vitality to the cementum, and does it ever do more than this? Does it, under favorable circumstances connect itself with the pulp organ through the dentine. To sustain the latter we have the reported case of Professor Fussey, alluded to some year or two since in the Register, in which

on the removal of an inferior incisor, the labial portion of which, and also the point of the fang was laid bare by an absorption of the gum and alveolus, and yet the pulp was alive. The nerve and blood-vessels which pass in and out at the apex of the root, had been severed by the disease for sometime, still blood and a living nerve was found in its narrow canal. During the summer, having occasion to remove two such teeth for a patient, we split both for an examination, and found in one a living nerve and blood-vessels, apparently perfect.* It may also be remarked that nerves often remain living in teeth long after the crown is destroyed by disease. Still the question would be pertinent, are they kept so without any aid from the periosteum? It appears to us that the anatomical arrangement of the tooth with the enamel, dentine, cementum and periosteum, the first possessing little if any vitality, the second with increased sensibility, and the third still increased in this particular, while the last, the periosteum, has its usual amount of vital powers as displayed in other parts of the body, is specially arranged to provide for exigencies that may arise as the result of disease in organs so important. The vitality so gradually diminishes as we approach the enamel that no great disturbance to the vital functions takes place if it is even cut short before it reaches this outer covering. For instance, this cementum may still maintain its healthy functions, if the dentine be impaired. The dentine receiving its principal supply of vitality from the internal vessels, these may be removed and the tooth as connected with its alveolar investments still be regarded as a living organ. We regard the cementum as an intermediary substance between the periosteum and dentine, and so peculiarly organized that the contact of the latter, even in a dead state, does not necessarily impair its proper function."

Again, "Yet we feel as sure that there are certain circumstances generally involved in the loss of the crowns of the teeth by disease, that are sufficient in and of themselves to cause the surrounding parts to repel the roots as irritants. We must not forget that perfectly sound and healthy teeth, even when invested in healthy alveolar processes and gums, when they have lost their antagonists, also soon show evidences of being regarded by the contiguous parts as no longer useful, but unnecessary and foreign. Roots of teeth are relatively in the same condition, they have lost their antagonism. Roots of teeth to which artificial crowns have been attached sometimes last for twenty years and why, because the antagonism is restored, and, we might add, the dead and decomposed portions have been removed.

"The death of the pulp has made an impression on the periosteum at the apex of the fang where the pulp-vessels pass through this membrane as they enter the teeth, and here begins that disease which soon often separates the teeth from the surrounding parts, and this disease acts upon the membrane itself."

The writer concludes his present paper with a description of caries.

Passing over "Chlorine, by G. Watt, D. D. S., M. D.," from the character of which it would be impossible to make intelligible extract

* We hope the profession will not let cases of a like character pass without examination.

we come to Dr. Lock's report on his "Analysis of Delabarre's, Hunter's and Allen's Formulas." In this paper the doctor gives a variety of formulas, (and the printer a variety of ways of spelling *silex*, such as *silix*, *silax*, etc.,) most of which (the formulas) have been already published during the discussion between Drs. Allen and Hunter, we give, however, the following extracts, which will interest :

"The general character of the specimens of Drs. Allen and Hunter's compound was so close, that the description of one will answer for both. They were less plastic than the preceding ; (Delabarre,) they were not of the same shade of color, and required 2264° (a little above the melting of gold) to vitrify them, at two different times. I made a specimen of each, in the first experiment after vitrification, the specimen according to Dr. Allen's formula was the whitest, but in the second experiment the reverse was the case.

"We have previously spoken of Drs. Allen and Hunter's compounds collectively, our reasons for so doing are these : they agree so closely in physical character, they vitify at the same temperature, and approach one another remarkably close in contraction, &c.

"*Synopsis.*—In our opinion we have shown that Delabarre's formula is impracticable. Drs. Hunter and Allen's are identical in physical characters and proportions ; their formation involves precisely the same principle, the only difference being a partial substitution of one article for another."

The article following this, by A. S. Talbot, D. D. S., we pass over, on account of its controversial character, and come to a communication on "Drying Cavities Preparatory to Filling," which we publish entire in another place.

"Gutta Percha, by Dr. N. B. Slayton," to which the editor prefixes a commendatory notice. After speaking of the ease and dispatch with which a set of teeth may be made, and the trifling cost to the operator and increased comfort to the wearer, he says :

"I mould my gutta percha on the plaster model, and if that is correct, I am certain of a *perfect* fit. With no warping or springing of plate, no irritation of the gums, no falling of the plate in the mouth, and, in fact, you give better satisfaction to your patient than you possibly can do with a plate. I can make a full set in from six to eight hours, and when finished will cost me about six dollars, it depending on the price that you can obtain the gutta percha at."

And again "I do not offer this article to the profession for *permanent* work, but for *temporary* there is nothing better. I should advise any one, at first to use it as *temporary*, and give it a *fair* test ; it will then be time enough to use it for permanent work. I am not yet done *experimenting* with gutta percha. I am satisfied in my own mind that it yet will take the place of plate in most every case, and be made equally as *durable*."

The balance of the number is chiefly taken up with "the Report of the Proceedings of the American Dental Convention," "Treatment of Alveolar Abscess, by Prof. White," (which the publisher fails to credit,) "Management of Light in the performance of Dental Operations, by J. H. McQuillen, D. D. S.," all of which have already appeared in the Dental News Letter.

In the editorial department we have an article on the meeting of the American Dental Convention, in which the editor endorses the movement, and hopes much good may result. He says:—

"Our experience fully convinces us of the professional importance of such convocations. We hold that no man can be so high as not to be benefited by such intercourse; we are all learners, and however much we may differ as to the best mode of organizing and conducting such convocations, yet, with the proper spirit carried out, much individual good must be the result."

Then follows some remarks on "Gutta Percha for the Base of Artificial Teeth," in which a very favorable opinion is expressed of the material being made available in mechanical dentistry.

Altogether, the number is a very interesting one, and the publication well worthy the support of the profession.

New York Dental Recorder, for October, opens with a selection from Kolliker's Microscopical Anatomy, which is followed by "Cases of Alveolar Abscess" by the editor, from which we make the following extract:

"The course of treatment alluded to was founded upon the belief, that by far the greatest proportion of these abscesses were the result of decomposed or decomposing substances contained in the pulp cavity or nerve canal of the tooth. That this decomposition gave rise to matters which must somewhere find vent, and that when no exit could be had from the crown of the tooth, they forced their way through the foramen at the extremity of the fang, causing more or less inflammation of the periosteum of the tooth at that point; that at this stage of the disease, an effort was made by nature to repel and confine the discharging substances to the cavity of the tooth, and that where the amount of decomposition was trifling, this effort was often successful; the periosteum becoming thickened and indurated, and thus closing effectually the foramen of the root, but that when this attempt at a *natural cure* failed, the membrane surrounding the fang became the sac of the abscess—that this eventually opened, and a sinus being formed through the alveolar process and gum, the discharge was thus made, continuing for an indefinite period, increasing and diminishing from time to time, as exciting or soothing influences were brought to bear upon the affected organ and its surrounding tissues.

"The course of treatment advocated was, first—removal of all decomposed substances contained in the pulp cavity of the tooth; second—

to arrest effectually the process of decomposition both in the nerve cavity and beyond it. The first to be accomplished by the use of such instruments as could be readily passed into the canal to its extremity, and by repeated and thorough washing with water (by means of a syringe.) The second object to be attained by the use of creosote. This substance is well known as an antiseptic; it will prevent the decomposition of animal substances; it will do more, it will arrest decomposition after it has commenced, and still more, for it will often restore animal matter which has become slightly decomposed or "tainted." Meat held for a few minutes in a weak solution of creosote and water can be hung up in the air till dried and is in effect cured or smoked—at least so far as its preservation is concerned.

"It is a matter of daily notice that teeth with dead nerves in them turn dark; it is simply because their decomposed contents have entered tubules forming the dentine, to remove all of this discolored bone would greatly weaken the tooth. Fortunately, it is seldom necessary. The removal of comparatively a small portion will, aided by the yellow tinge caused by the subsequent filling with gold, generally prove sufficient to restore the natural appearance or so near it as to escape notice. Still there yet remains a large amount of dentine, the tubes of which contain decomposed matter; to leave this so and fill the tooth and fang, would only insure a darker shade to the tooth. In the majority of cases a very decided change of color would be noticed after a few weeks had elapsed. We know of no way of obviating this difficulty, except by treating the contents of the dentinal tubes with creosote.

"The tubes cannot be emptied—we cannot purge them of their disgusting and baneful contents, but we can leave the decomposed substances in their resting place in a pure and inert condition, so that they will neither injure nor discolor the tooth. This end we accomplish by means of creosote, and with more certainty than with any other agent with which we are acquainted. So much for preface. We are now prepared to make some practical illustrations."

Then follows "some practical illustrations," next we have a continuation of an essay by Professor P. H. Austen on "Metallic Dies," from which we quote as follows:

"But a second argument in favor of metals that fuse at a low temperature, is the lessened amount of shrinkage. The lower the melting point, *ceteris paribus*, the less a die will shrink. All metals below their point of fusion, are subject to the general law of expansion by heat and contraction by cold. True, the rate of expansion varies, but with every allowance for such variation, the metal that "sets" at 770 degrees, and has to lose 700 degrees of heat to reach the mean temperature of the air, will shrink much more than one that cools through only 200 degrees. What shall we then say of copper, shrinking through 1,900 degrees, and brass through 1,800, will their increase of hardness compensate for their great contraction? We think not.

"As regards the relative fusibility of the two dies, it is much safer that the one last poured should be the more fusible, though, with care, metals of equal fusibility may be used, or the one last made might be

a few degrees less fusible than the first. In any such case, the first die should be cool, and carefully coated on its face with whiting or lamp smoke. There is not, however, we think, any necessity for incurring such risk. Some operators, by the dipping process, or otherwise make their counter-die first; others again, by the process of moulding, first cast the die. Either may, by reference to the table subsequently to be given, select two metals or alloys, such that, whilst in both cases the counter-die shall be the softer, in each the metal first used shall be the more infusible."

The truthfulness of the following cannot be questioned:

"One will say he has never used any other metals than zinc and lead, and he has never found the shrinkage of the zinc a course of inaccuracy. Another has always used his two dies of the same metal, and yet his plates always fit. A third, who never uses any material harder than tin, pewter, or type metal, is uniformly successful. One of three inferences from such statements must be true; either the operators have a limited experience, or they fail to distinguish between a firm and unstable adaptation, or they are deficient in candor. The profession abounds in men who speak thus confidently of their own particular methods. Gather them in convention, and let each speak of the merits of his own plan, and you might well think that dental science had reached its *ultima thule* of perfection; but hear them comment each upon the plans of the rest, and you then might wonder if there had really been any progress made since the days of Desirabode. "This remedy never fails to restore the most broken constitution, in a very short time, to a condition of perfect, healthful vigor." Such is the language of the charlatan, who would have the world think that one panacea will suffice for all the ills that flesh is heir to. Such, virtually, is the spirit of every one who assumes for any process a too universal application, and who, by denying the necessity for improvement, would check the progress of scientific discovery."

In the November number of the same journal, we have a continuation of the essay by Professor Austen, on "Metallic Dies," from which we make the following quotations:

"One other popular error, relative to the contraction of the die, demands notice. It is said that metal must not be poured too hot into the mould, lest there be an unnecessary shrinkage. True, the metal should not be too hot, but for a different reason, to wit: the danger of spoiling the die by the too rapid evolution of vapor where the sand is used, without any previous drying. So far as accuracy in other respects is concerned, the hot poured metal will give the most correct die, because by reason of its greater fluidity, more searching. This is evident upon comparing the smooth surface of a cold poured die with the granulated surface of one poured hot, in which the minutest grain has left its impression. As regards shrinkage, there is not, as respects the *face* of the die, the slightest difference, though on the back, it is very perceptible in the depth of the central depression.

"Undue violence, together with a faulty shape of the die itself, cause many to class zinc among those metals too brittle for use;

whereas a skillful manipulator has no occasion even to break a properly shaped zinc die. Antimony and bismuth are alone unfit for use, and if added in too large proportion, will render alloys too brittle."

The next is "*On the Use of Amalgam*, by Elisha Townsend," (copied from the October number Dental News Letter,) on which the editor makes some remarks in a separate article, saying: "They (our readers) will not, however, be surprised that a course so inconsistent on his part should be bolstered up by equally inconsistent argument."

* * * * * "The facts he has furnished us are valuable, but as for the arguments and deductions, we regret for his sake, that we cannot award them equal praise."

The Dental Obturator, for November, comes filled, as usual, with good things "from grave to gay, from lively to severe," and said with a raciness and plainness truly refreshing. There is "a don't-care-a-tiveness" about it, peculiar to the South, and which is in bold contrast to the quiet jog-trot style—the cool, careful, calculating manner of the North.

We have room but for a few extracts:

"*Something New*.—While engaged in the practice of that specialty of our profession, the "restoration of the face to its original contour," at No. 30 Bond street, N. Y., Dr. Allen (the inventor of continuous gum used in this practice) and myself instituted some experiments with arsenic in combination with platina, for the purpose of producing a solder to be used instead of pure gold, which proved perfectly successful.

"Turner's Chemistry, in an article on alloys, says that platina mixed with nine parts arsenic, forms a metal that will flow at a red heat and that by a higher heat the arsenic is driven off, leaving the pure platina in its normal state.

"We found, however, that three parts platina to one of arsenic, produced a solder that flows easy enough for the blow-pipe, but the best way to use it is to heat the job to a red heat, when it will flow by being applied, if not, a jet from the blow-pipe will do it. The reason that it will not flow as well by the ordinary mode of heating up with the solder on, is that the heat drives off the arsenic too soon, and when the job becomes heated, it will not flow; therefore it should not be put on until the job is heated.

"It is but just to say that Dr. Edward Roberts first called our attention to it.

"*To make it*.—Take metallic arsenic and place it on a coal. Then lay the platina scraps over it, so as to shield the arsenic partially from the flame; then, with a blow-pipe heat the mass, and they will be easily amalgamated. This forms a brittle metal, which will flow as stated. It is every way superior to gold, for it will flow and remain in greater body, and will stiffen the plate materially. After it flows, pure nitric acid will not act on it in the least, so that even if it were

not covered by the gum and body, no injury would probably result from its contact with the fluids of the mouth."

On the subject of gutta percha for temporary work, he says:

"We have learned from Dr. Slayton, his method of putting up this work, and feel satisfied that it will answer an admirable purpose for all that he now offers it to the profession for—TEMPORARY SETTS."

SELECTIONS AND ABSTRACTS, FROM MEDICAL JOURNALS.

BY S. S. WHITE, D. D. S.

In the London Lancet for October, Mr. Dove narrates a very severe and protracted case of nervous disease, one of the prominent symptoms of which was "neuralgia of the left side, and of the face and head." This disappeared on the removal of "all her carious stumps of teeth, sixteen in number."

The same journal contains the following summary:

"*On the Intrinsic Calcification of the Permanent Tooth-pulp as constantly associated with Dental Caries.* By S. James A. Salter, Esq., M. B., F. L. S.—The object of this communication was to explain the changes which take place when the dentine becomes carious, and the following are the principal points enforced:—

"1. In every carious tooth the pulp becomes impregnated with calcareous matter.

"2. This produces a change in its physical properties; it becomes first firmer than natural, then hard and elastic, and perfectly hard and brittle, according to the degrees of calcification.

"3. The calcification occurs intrinsically in the substance of the pulp, and not on its surface; differing in this respect from primary and the other two forms of secondary dentine.

"4. The calcification displays itself at sundry isolated points, producing what the author proposes to call "islands of calcification."

"5. The islands of calcification are not interstitial deposits of earthy matter, but consist of animal matter impregnated with earthy.

"6. All the tissues of the pulp appear to sustain the impregnation, and are originally the animal basis.

"7. As the calcification advances, the islands enlarge, and at length fuse together, forming a dense coherent mass; this is osteo-dentine.

"8. In the perfectly calcified pulp the functions of the nerves have ceased, and the structure is insensitive.

"9. Sometimes, instead of osteo-dentine, the pulp is converted into crusta petrosa.

"10. The process of calcification, though morbid in its nature, is reparative in its results."

Also, a brief description by the same gentleman, of a specimen of

"*Vascular Cancellated Tooth-bone, constituting an exostosis on the Fang of the Bicuspid Tooth.*—The tooth, which was a superior bicuspid, was given to Mr. Salter by Mr. Walter Jones, of Worcester. The lower half of the fang was incrustated irregularly by hypertrophied

tooth-bone, and exhibiting on its surface apertures and cancellated openings. A section of the tooth, viewed with low powers of the microscope, displayed many very singular vascular canals, varying in diameter from one hundredth to one thousandth of an inch. These canals run through the structure in every conceivable direction, frequently branching and varying much in diameter in different parts of their course. In all respects, this exostosis contrasts remarkably with the ordinary compact, non-vascular exostosis. The structure was illustrated by drawings and microscopical specimens."

Another of

"*Fatty Degeneration of the Tooth-pulp.*—This was observed by Mr. Salter in a tooth which had been some months removed. The pulp, which was in a soft, diffuent condition, was found, upon microscopical examination, to contain multitudes of minute, highly refracting globules, scattered amongst the *debris* of the pulp, in all respects resembling fat globules, as seen in ordinary degenerate tissues. Upon application of ether, these globules dissolved and vanished, proving their fatty nature. The dentine of this tooth was unusually clear, and of a dark-yellow color: and microscopical sections were so transparent, that the tubuli could be scarcely discerned. When, however, they were boiled in ether, the white opacity of the dentine was restored, and the tubuli everywhere apparent, as in the normal tissue. This was shown in sections of the neck of the tooth."

The latter, with other specimens of fatty degeneration, were presented to the Pathological Society of London, in relation to which Dr. Quain observed "that whether it was in the pulp of a tooth, or in the most vital organ of the body, when nutrition was interfered with, this process of fatty decay occurred."

"*Emetics in Tooth-ache.*—M. Cæsar Fredericq, of Ghent, has directed attention to a variety of tooth-ache which is indicative of a disordered state of the stomach, and which he has succeeded in relieving by the administration of ipecacuanha in emetic doses. He has seen this treatment succeed where everything else had failed, and where even the removal of the diseased tooth produced no effect."—*London Lancet*.

"*Death from Chloroform.*—A young lady, Miss Naylor, residing with her friends in Hanover street, Sheffield, was for some time past in the habit, notwithstanding the remonstrances of those about her, of inhaling chloroform for the purpose of producing trance, and allaying the pain consequent upon an affection of the *tie douloureux*, to which she was much subject. The result, as might be conjectured, was, that the sufferer inhaled an over-dose of the anæsthetic agent, and upon her friends entering her room one morning this week, they found her a lifeless corpse in bed, with the bottle which had contained the chloroform by her side. Dr. Bartolome was called in, but he found the body quite rigid, and the vital spark had been extinct for some hours."—*Ibid*.

"*On Local Anæsthesia.* By A. J. Banks, Esq., M. R. C. S. and L. S. A.—Having several times been called upon to perform severe operations under the influence of chloroform, at the urgent request of

my patients, and having in many instances witnessed its unpleasant minor effects, such as head-ache, giddiness, vomiting, prolonged insensibility, and other more alarming symptoms, I have daily become more reluctant to place my patients under the influence of an anæsthetic, rendering them liable to such disagreeable consequences, and even placing their lives in jeopardy, preferring rather that they should suffer the pain of the operation, &c., than expose them to an additional risk, the result of which there can be no doubt has proved fatal in too many instances, even under the hands of those who have advocated its use, and who are skillful and experienced surgeons.

“Under these circumstances, I determined, if the next case admitted of the use of cold as an anæsthetic, to try its effects as proposed, and so ably advocated by Dr. James Arnott. Accordingly, a few days since, having been called upon to remove a tumor of an osseous character from the anterior and outer surface of the lower extremity, situate between the tibialis anticus and the extensor pollicis muscles, in close proximity to the anterior tibial artery and nerve, with the accompanying venæ comites, I produced the necessary cold by means of ice and salt, and, after its application for three minutes, was enabled to remove the tumor, with scarcely any complaint from the patient. The wound within a fortnight healed by the first intention, and the patient, a lady upwards of eighty years of age, who had been suffering great local and constitutional irritation for more than forty years, and was fast sinking from its presence, being obliged to keep her bed, and lately unable to take support, is now (four weeks since) in good health, and able to walk without the slightest lameness, with which she had been afflicted for years. No hæmorrhage or other unpleasant symptom followed.

“In forwarding this case, with the result, I feel that I am only performing my duty as one of the professed preservers of human life, in being one of the advocates of a principle so easily applied, and likely to be followed by such favorable results.”—*Ibid.*

Dr. J. A. Wilson, in the course of an address to the West. Med. and Surg. Society of London, “remarked upon the attention that was being given to the local extinction of pain by ether and cold, the former being applied through the medium of albumen, with which it forms a compound, and which readily permits its application to any part.”—*London Lancet, Dec.*

In a paper on “*Various kinds of Deformities*,” (Lon. Lancet, Nov.) Mr. Lonsdale states, that

“Contraction of the muscles or soft parts connected with the jaw, completely or partially preventing the opening of the mouth, may occur from nervous causes, producing a kind of chronic trismus, where the muscles are only affected; or it may arise from inflammatory thickening of the mucous membrane, or sub-tissues, or in the skin, as after burns, sloughing ulcers in the cheeks, either internal or external. I saw a case, a short time ago, where a firm band was formed, extending from the mucous membrane covering the outside of the alveoli of the upper jaw down to the lower jaw, which kept the latter closed so tightly that the mouth could only be opened to the extent of half an

inch. This was caused by an attack of inflammation after the extraction of a tooth; abscess formed to a large extent, destroying portions of the mucous membrane, and causing exfoliation of bone. It is not often that the articulation of the lower jaw itself is the primary cause of the contraction; it may be, however, from rheumatic or scrofulous inflammation, and, in rare cases, may become ankylosed."

In relation to wry-neck, he observes:

"There is another interesting point connected with these cases, which is met with where the deformity has existed some years, viz., the alteration in the shape and level of the features. This is not apparent only, as might be supposed from the position of the head, but real; for when the head is placed quite straight, one eye-brow will be still found to be at a lower level than the other, and the frontal bone itself not equal on the two sides. The nose and mouth are also twisted, and the lower jaw altered in shape."

Hæmostatics.—M. Monsel has experimentally shown that a combination of benzoic and alum is very efficient in coagulating blood and checking hæmorrhage. Also one of "ten gr. of tannic acid and a scruple of alum, deprived of its iron, to an ounce and a half of rose-water."—*Rank. Abs.*, July, 1855.

"*A Plastic operation for the restoration of the Lower Lip. By Mr. Teale, Surgeon to the Leeds General Infirmary.*—This operation (which is described in a paper to the Royal Medico-Chirurgical Society) consists in the formation of two lateral flaps from the everted lip and neighboring portions of the cheeks, and in uniting them in the mesial line, above the central portion of the base of the everted lip; or, in other words, in building up a new lip upon the base of the old one. Two vertical incisions about three-quarters of an inch in extent, are made through the everted lip down to the bone, leaving between them the central portion of the lip, of an extent equal to half the distance from one angle of the mouth to the other. From the lower end of each of these the knife is carried in a curving direction upwards and outwards, so as to terminate about one inch from the angle of the mouth, opposite the second molar tooth of the upper jaw. The two flaps thus marked out are detached from their connections with the bone, the mucous membrane uniting them to the alveoli being freely divided. Lastly, a bare surface is made along the upper border of the central portion of the everted lip by a transverse line of incision near the junction of the lip with the alveoli. The lateral flaps are then united by twisted suture, and two or three interrupted sutures to each other in the median line and to the central portion of the lip below."—*Ibid.*

"*The treatment of Salivary Fistula. By M. Rudolphi.*—The plan which is here described is recommended by its simplicity as well as by the success which has attended its employment. It ought, at least, to have a fair trial before having recourse to severer measures.

"*Case.*—A man, æt. 28, strong and healthy, was operated upon, in July, 1853, for a cyst in the course of the duct of Steno. Three days afterwards, saliva was found to escape from the wound.

"First of all, careful pressure was made with small pledgets of lint. The result of this treatment was, that a painful and red swelling formed in the neighborhood of the parotid gland. Attempts were then made to close the wound with a silver needle and a twisted suture; but this plan did not answer, and after four days the saliva escaped freely from the punctures made by the needles. After this a steel contrivance was used, which kept the edges of the wound in contact throughout their whole extent, but this the patient could not bear.

"M. Rudolphi next bethought himself of collodion. He carefully dried the edges of the fistula, and applied two drops of the solution, which presently dried up, and left the part covered with an artificial cuticle. The day following he thickened this pellicle by dropping more collodion upon it, and so on the next day and the day following; and the end was, that in eight days the patient was perfectly well, the fistula having been closed from the time of the first application of the collodion."—*Ibid.*

Dryness of the Tongue a Consequence of Nasal Polypus. By Dr. Bently.—The following remarks in relation to the above, are taken from the same journal.

"It would seem from it," the case reported, "that not only may nasal obstruction cause the perception of dryness of the tongue to the patient, but that it may cause the important objective symptom of an arid, and absolutely dry streak, to persist without change for months together." Therefore, the writer, in conclusion, recommends that "*in all cases in which dryness of the tongue or head-ache occur without apparent cause, examine carefully as to the patency of the nares.*"

"Aneurism of the Superior Palatine Artery. By M. Teirlinck.—This surgical curiosity was met with in the case of a man, æt. 74. The tumor occupied the roof of the palate, which bled so frequently that the patient was much exhausted. The tumor was soft, elastic and pulsated synchronously with the heart, alternately expanding and diminishing. Its cause was unknown, and it had lasted for three weeks. The actual cautery was employed, the slough separated in eight days, the hemorrhage did not recur, and a perfect cure resulted."—*Amer. Jour. Med. Science*, from *Gazette Médicale*.

Dr. Duigan reports the following, among other remarkable wounds received in the Crimea:

"Shell wounds.—A seaman, knocked down by a fragment of mortar shell, was picked up dead. The head was apparently swept from his shoulders, but there was no trace of hæmorrhage. On disentangling his clothes, which were tightly jammed around the injured part, the head was found driven downwards into the chest, carrying with it a great portion of blue shirt and red comforter. A small tuft of hair alone was visible at the bottom of a deep cavity. It was a regular intussusception."

"A shell was fired at a group, principally composed of sappers and miners. One was killed, his face having been shot away. Another

was carried up to the first parallel, badly wounded. On examination, it was found that half of the inferior maxilla of the dead man was driven into the roof of the second man's mouth."

"A soldier of the 19th was struck on the temple by a grape-shot, which destroyed the squamous portion of the temporal bone. The brain was flowing through the wound, the man breathing stertorously. The grape-shot was supposed to be within the skull. It was subsequently found in his mouth, at the base of the tongue, pressing against the epiglottis."

Conein, and oleaginous liquid, the active principle of hemlock, is said by M. Murrawjeff, (Nashville Medicine and Surgery Journal, from Med. Zeiting Ruse,) to be "very valuable in tooth-ache, one drop being sufficient to control the pain." Also in neuralgia of the surface, in which he first washes the affected part with wine, then applies two drops of pure conein and covers the whole with oiled silk.

"Fissure of the Palate Cured by Caustic.—An interesting memoir on this subject, with an account of six successful cases, by Dr. Jules Cloquet, is published in the Gazette of Medecine de Paris, for March 3d. The method employed by M. Cloquet is to cauterize the upper angle of the fissure for the extent of a few lines, by the application of the pernitrate of mercury, the hot iron, or loop of platina wire, rendered incandescent by means of the electric current. Not less than seven or eight days ought to elapse between each operation, in order to allow the parts to contract, and to consolidate the union. In the one case, after twenty-four applications of the pernitrate of mercury, with a pointed stick of soft wood, a fissure of the whole extent of the soft palate, caused by syphilitic ulceration, was completely united. In another case, in which the fissure was congenital, the same number of operations, by means of the red hot iron, were sufficient to restore the parts perfectly to their normal state. Where the parts are firmly adherent to the bone, they may be separated by the knife before applying the caustic, as in the ordinary operation by sutures. The operation occasions very little pain, is exceedingly simple, and requires no change in the regimen or habits of the patient."—*Virginia Med. and Surg. Journal.*

On Cauterization by Galvanism. By Algernon Coolidge, M. D.—This is a very interesting paper on the therapeutic use of galvanism. The following has the greatest relation to dentistry:

"Within the last twenty years a new method of applying electricity to medical purposes has been tried, and promises to become of greater practical utility than any other. This is the method of employing a wire, heated by galvanism to a red or white heat, instead of the knife, for some operations, and always instead of the old means of applying the actual cautery.

"Heider, in Vienna, acting upon a suggestion made to him two years previously, by Professor Steinheil, of Munich, employed the galvanic cautery for the destruction of the dental pulp.

"In 1848, Gustavus Crusell, a Russian," among other things "recommends it for the extirpation of tumors; he made use of wire and platinum foil for cutting, and the latter for cauterizing a surface." "Ledillot, in 1853, refers to the publication in 1849, of the perfect cure of an erectile tumor" with "the galvanic cautery."

"In 1851 John Marshall, of London, published an article 'On the Employment of the Heat of Electricity in Practical Surgery.'"

"The Lancet of the same year contains the experiments of MM. Harding and Waite, both dentists. Harding owes his attempts to the perusal of Mr. Marshall's case."

"By far the most important work on galvanic cautery that has yet appeared, is the one of Professor Middeldorpf, of Breslau in Prussia. If not the first to have used it, it is to him we are indebted for our present advance in it. He has certainly made this way of operating easy and practical. It was the perusal of Harding's method of destroying the dental pulp, that first caused him to devote his attention to the subject. The battery he prefers is a large Grove's battery, composed of four cells. The zinc cylinders are six inches long and four broad, each having about seventy-eight square inches of surface; the interior surface being alone reckoned. The positive element is composed of three pieces of platinum foil, each of which being nearly four inches long and three in breadth, the surface presented by it is over sixty square inches; so that the battery can be said to present two hundred and fifty square inches of surface of platinum, and two hundred and ten of surface of zinc. By a very ingenious arrangement of the rods connecting the several elements he can have a strong or weaker current at pleasure."

Accompanying the paper are engravings of the various instruments, but the principal one employed by Professor M. is the platinum loop. *Bos. Med. and Surg. Journal.*

"In the Boston Medical and Surgical Journal, Dr. Hooker presents a case of "complete paralysis of the right side, excepting the nerves of the face, tongue and throat, supervening after anæsthesia" by ether. "The paralysis of the extremities continued for nearly a year, before he was able to use his limbs with any degree of freedom." Dr. H. is, however, in doubt whether this state was the result of a loaded stomach, the shock from the operation, or the ether.

"In the Western Lancet, we find an account of the case of a gentleman who, while eating his dinner, disengaged and swallowed a gold dental plate, having a clasp on the left side. The plate supported a full set of heavy incisors for the upper jaw, four in number. The patient took cathartic pills, without effect; but in two days and eighteen hours from the date of the accident, he passed the plate per anum, with but little pain, surrounded and impacted in a mass of hardened fæces."

"Cancrum Oris Treated by Nitric Acid.—A case of cancrum oris has just occurred in St. Bartholomew's Hospital, under the care of Dr. Baly, which has well illustrated the usefulness of the application of the strong nitric acid. The patient was a boy, in whose left cheek the phagedenic ulceration commenced during recovery after scarlet fever. The internal use of chlorate of potass was first tried and persisted with, in ten grain doses, for several days, the disease, meanwhile, being unchecked. A single free application of the concentrated acid was then made to the part, and with the effect of completely arresting the morbid action. The induration of the surrounding part has since gradually subsided, and the sore is now almost healed. The case, although not one of the most acute class, was yet of a character sufficiently alarming."—*Med. Times and Gazette, and South. Jour. Med. and Phys. Sci.*

"Dental Caries Among Diabetics.—M. Falck attributes the frequency of caries of the teeth in diabetes to the presence of free lactic acid in the saliva, dissolving the mineral part of the dental substance. He has proved by experiments that the substance of the teeth is unchanged by the action of pure solutions of sugar. The presence of lactic acid he considers due to the action of the saliva-ferment on the grape and diabetic sugar in the economy."—*South. Jour. Med. and Phys. Sci.*

"New Cure for Obstinate Bleeding following the Extraction of a Tooth.—Dr. Samuel A. Cartwright, in the Boston Medical and Surgical Journal, recommends for this purpose the application of a common amputating tourniquet 'over the head obliquely, the pad placed on the outside of the cheek over the bleeding gum, and the screw over the pad; a pledget of raw cotton, and nothing else, being previously inserted without force into the bleeding cavity. As soon as the screw is brought to bear on the pad, resting on the outside of the cheek, the hæmorrhage instantly stops.' The bleeding is arrested 'on the same principle that uterine hæmorrhage is, by making the bleeding cavity contract.' The yielding parietes of the alveolar process which has been expanded by the extraction of the tooth, and still more expanded by the forcible insertion of tightly fitting plugs, no sooner feel the lateral pressure of the screw than they contract, and the contraction arrests the bleeding; and it does this with as much certainty as the contraction of the uterus arrests uterine hæmorrhage after delivery."—*New Jersey Medical Reporter.*

It has been suggested by a friend that the immediate application of a clamp *over the alveolar* would be more certain and efficient.

"Neuralgia.—Dr. Ebdon, in the Indian Annals of Medical Science, makes very favorable mention of the use of the hydrochlorate of ammonia in neuralgia. He notices cases in which its action has been very beneficial, such as tic douloureux, toothache, clonus hysterics, and even in one case of neuralgic dysmenorrhœa. He prescribes the salt in doses of twenty to thirty grains, in mint water or camphor mixture, to be taken every twenty minutes for three doses."—*Ibid.*

"Why do Teeth Decay?"—All the theories that time and again have been advanced in answer to this inquiry, have long since vanished before the true doctrine of the action of external corrosive agents.

The great and all-powerful destroyer of the human teeth is acid, vegetable and mineral, and it matters not whether the acid is formed in the mouth by the decomposition of particles of food left between and around the teeth, or whether it is applied directly to the organs themselves; the result is the same, the enamel is dissolved, corroded, and the tooth destroyed. Much, very much of the decay in teeth may be attributed to the corrosive effects of ascetic acid, which is not only in common use as a condiment in the form of vinegar, but is generated by the decay and decomposition of any and every variety of vegetable matter. When we consider how very few persons, comparatively, take especial pains to remove every particle of food from between and around their teeth immediately after eating, can we wonder that diseased teeth are so common, and that their early loss is so frequently deplored?"—*Med. Reformer*.

"Necrosis of Lower Jaw.—The subject of this case was a mulatto boy belonging to Major Haden, of Selma, Alabama, about eight years old. He had been kicked by a horse on the lower jaw six months before he was brought to me in Mobile, but I could not obtain any satisfactory history of the case. The jaw seemed to have been fractured, and when I first saw him there existed enormous swelling, with suppuration, and two openings, one at the angle of the jaw, and the other near the chin. On passing a probe from one opening to the other, dead bone was detected. It was determined to make a free opening, with the view of removing the diseased bone, but the extent of the operation could not be determined beforehand. A free opening was made externally down to the bone, from the angle of the jaw, along its base, to the chin; and, on introducing the finger, the body and ramus of the bone were found extensively denuded and bathed in pus. The base of the bone was enlarged in thickness to about three times its natural dimensions; and, on passing the finger along the outer surface of the bone, from the ramus forward towards the chin, a deep suture was felt along the shaft of the bone; this sulcus seemed to be the line between the living and dead bone. The diseased bone was not yet separated at its anterior extremity, but was still firmly adhering to the sound bone at the chin. I dissected loose the soft parts freely, and divided the bone at its anterior part with strong bone nippers; the ligamentous attachments of the condyloid and coronoid processes being destroyed by ulceration, I had little difficulty in extracting the bone with a pair of large forceps; the whole of the ramus and lower half of the body of the bone as far forward as the canine tooth, was all brought away in a solid piece; the teeth, alveolar processes, and upper margin of bone were all left *in situ*. The boy had none but his twenty milk teeth, and the interesting point of the case was to see whether the teeth and portion of bone left behind could still be nourished and remain healthy after so large a piece of bone was removed, *including the nutritious artery*. The case did well, and was soon sent home to the country.

"I received a letter a few days ago from Dr. Wm. P. Reese, from which I give the following extract, dated about two months and a half after the operation:

"I have this day examined the little boy William, of Major Haden

he is quite well, with the exception of a very small half-closed fistulous opening at the anterior terminus of the cicatrix, from which there is very slight exudation; the teeth, gums and alveoli are *in situ*, and apparently perfectly healthy; his general health is good.'

"As I had to make an artificial division of the bone at the chin, I expected slow healing then, and probably the discharge of some small fragments of carious bone.

"This case will be a curious one to watch, both in a pathological and physiological point of view. Will such a section of bone be able to sustain itself and the inclosed teeth? will new teeth replace the old ones when cast off? will this fragment of jaw have sufficient strength for mastication? I hope to be able to keep a watch upon the case through my friend, Dr. Reese."—*Am. Jour. Med. Sci., and At. Med. and Sur. Jour.*

A fatal "case of Trismus, occurring in an adult," caused apparently by the "combined effects of irritating ingesta, such as the cores and skins of apples, raw meat and pieces of potato, and long continued constipation," is recorded in the *Pennsylvania Journal of Medicine*, October, 1855.

The Induction of Sleep and Anæsthesia by compression of the Carotids. By Alexander Fleming, M. D., Professor of *Materia Medica*, Queen's College, Cork.—The study of narcotism suggested to Dr. F. the trial of compression of the carotids in its relations to the "functions of the brain." The first experiment was made by a friend on his own person, "with the effect of causing immediate deep sleep." This has frequently been successfully repeated. Dr. F. has also made "cautious but successful trials on others." "The effect is immediate and decided."

"There is felt a soft humming in the ears, a sense of tingling steals over the body, and in a few seconds, complete unconsciousness and insensibility supervene, and continue so long as the pressure is maintained. On its removal, there is confusion of thought, with return of the tingling sensation, and in a few seconds consciousness is restored. The operation pales the face slightly, but the pulse is little, if at all, affected. In profound sleep the breathing is stertorous, but otherwise free. The inspirations are deeper. The mind dreams with much activity, and a few seconds appear as hours, from the number and rapid succession of thoughts passing through the brain. The experiments have never caused nausea, sickness or other unpleasant symptoms, except, in two or three instances, languor. The period of profound sleep, in my experiments, has seldom exceeded fifteen seconds, and never half a minute.

"The best mode of operating is to place the thumb of each hand under the angle of the lower jaw, and, feeling the artery, to press backwards, and obstruct the circulation through it. The recumbent position is best, and the head of the patient should lie a little forwards, to relax the skin. There should be no pressure on the windpipe.

"The internal jugular vein must be more or less compressed at the

same time with the carotid artery; and it may be thought that the phenomenon is due, wholly or in part, to the obstructed return of blood from the head. I am satisfied that the compression of the artery, and not of the vein, is the cause. The effect is most decided and rapid when the arterial pulsation is distinctly controlled by the finger, and the face loses somewhat of its color; and, on the other hand, is manifestly postponed and rendered imperfect when the compression causes congestion of the countenance.

"This mode of inducing anæsthesia is quick and certain. The effects diminish immediately when the arteries are relieved from pressure, and are not liable to increase, as happens sometimes with chloroform and ether, after the patient has ceased to respire the vapors. So far as my experience goes, it shows no tendency to cause faintness; and usually, after its employment, no unpleasant feeling whatever remains.

"I think it may be found useful as a remedial agent in certain headaches, tetanus, asthma, and other spasmodic diseases, and to prevent pain in such small operations as the extraction of a tooth, or the opening of an abscess. Whether the compression can be continued *with safety* sufficiently long to make it available in larger operations, has to be ascertained. But, whatever be the practical value of this observation, it is at least interesting as a physiological fact, and may be the means of throwing light on the causes of ordinary, medicinal, and hypnotic sleep, and of coma. Some facts encourage the supposition that the circulation of the brain is languid in ordinary slumber, and the etymology of the word carotid shows the ancient belief in the dependence of deep sleep on some interference with the passage of the blood through these vessels; and it is not an unreasonable conjecture, that hypnotic sleep may be sometimes caused or promoted by the contracted muscles and constrained position of the neck compressing the carotid arteries, and diminishing the supply of blood to, and pressure on the brain."—*British and Foreign Medico-Chirurgical Review*.

"*Extirpation of the Submaxillary Gland.*—Dr. Wm. H. Hingston relates (*Medical Chronicle or Montreal Monthly Journal of Medicine and Surgery*, September, 1855,) the following example of this:—

"W. S., æt. 20, placed himself under my care some time in December, 1853, when he related the following: One day in autumn, while working in the field, he was struck lightly by a farm servant with a potato upon the jaw. Very little inconvenience was felt at the time but a few weeks after the part beneath the jaw appeared red, tense and swollen. In the region corresponding to the posterior angle of the submaxillary triangle of the neck, a tumor is visible, causing slight fulness of that part of the cheek. The tumor is painful on pressure. Its upper border is covered in by the body of the lower jaw.

"During a period of four or five weeks, every attempt at discussing was made, but attended with no beneficial results. At the end of that time, I proposed its removal by the knife, to which Stewart readily consented. The sight of the instruments, however, weakened his resolution, and he left, promising to return on the following day. I saw nothing of him until the 5th of March. During the interim, the tumor had increased to twice its size, was more painful, and what was to him a source of much grief apparently, he thought it looked "very bad." He was now eager for its removal. With the assistance of

my friend, Dr. Wright, I commenced the operation by carrying an incision of about one and three-quarter*inches in length along the base of the left side of the lower jaw, commencing at the angle. The platysma, superficial and deep fasciæ were divided, and the tumor exposed. It was found to be bound down on all sides, by condensed areolar tissue, which yielded only to the edge of the knife. This made the dissection more hazardous. The facial artery was tied and cut; the facial vein also was divided. Hæmorrhage from the latter and from some other small venous branches was profuse, and greatly impeded our dissection, but by firm traction, downwards and forwards, it was isolated by the knife from its deep attachment. The edges of the wound were then brought carefully together, and union by second intention took place in seven days.

"It is now nearly eighteen months since the operation was performed, and the patient tells me he experiences no inconvenience whatever. A white seam alone indicates the former situation of the wound.

"The tumor (which was about the size of a walnut) was of a whitish color, and very hard, creaking under the knife like cartilage. A section of it showed it to be made up of concentric layers, having in their centre a nucleus of pus."—*Am. Jour. Med. Sci.*

"*Remarkable Gun-Shot Wound.*—Dr. J. Mason Warren related the following case:—The patient, a man 35 years old, while shooting some years since (1847) on the river St. Croix, had his gun explode, the breech-pin flying off and producing a severe wound in the head. According to his own account, the left eye-ball was blown out, the upper part of the socket destroyed, so as to expose the brain, and an opening made in the back part of it, causing a communication with the nasal sinuses. His recovery was very slow, and he suffered much from pain in his head, dizziness and other unpleasant symptoms. The nose was entirely stopped up, so that he was unable to breathe through it. At the end of rather more than a year, a firmness was felt on the hard palate, and something seemed to obstruct the posterior fauces. On examination, a screw was found projecting through the roof of the mouth, and an incision being made through that and the soft palate, the whole breech-pin, with the screw attached to it, was removed, having been buried for that length of time (eighteen months) in this situation, unsuspected.

["Dr. Warren exhibited a wooden model of the breech-pin, made by the patient himself, with the screw projecting from it at a right angle. It is three inches and a quarter long, and almost three inches in diameter. He also exhibited a drawing of the patient, executed by Dr. C. Ellery Stedman.]

"The condition of the patient when he entered the Massachusetts General Hospital, (Dec. 1, 1854,) was as follows: there was a fissure in the palate; the left eye-ball was gone; the eye-lids, which were apparently uninjured, remained open; an aperture existed at the back part of the socket, allowing a free communication with the nose and mouth. The edge of the socket was irregular at the point where the bone had been destroyed and the brain exposed. He could not speak intelligibly without pressing his fingers into the socket, so as to close the lids and prevent the passage of air from the mouth; even then, on account of the fissure in the palate, it was not easy to understand him.

Swallowing was difficult, and required an upright position of the head in order to effect it.

“The first indication seemed to be to obstruct the passage of air through the socket. To effect this, the patient being etherized, the tarsal cartilages were removed, the edges brought together by sutures and collodin applied. Immediately after the operation the speech was much improved.

“The following week, the fissure of the palate was operated on, and required much dissection in order to bring the edges in contact, on account of the callus and the unyielding condition of the soft parts. This was, however, finally effected, and the whole fissure closed. The first operation on the palate failed, from the unmanageable nature of the patient, who persisted in chewing tobacco and eating solid food. A repetition of it, however, with care on his part, was followed by complete success.

“The eyelids united, with the exception of a small aperture at the inner angle, which resisted all attempts to close it, and gave issue to a thin discharge like the tears, apparently indicating the remains of a small portion of the lachrymal gland, although all that part of the orbit to which this is attached seemed to have been destroyed. The hole was finally reduced to the size of the head of a pin, and no air passed through it.

“The patient left the hospital on March 17th, 1855, well, his voice being in a great measure restored.”—*Bost. Med. and Surg. Jour.*

Messrs. Calvert and Johnson, of Manchester, have succeeded in producing, among others, the following alloys “composed of iron, combined with that most valuable and extraordinary metal, aluminium; these two alloys are composed as follows: First, 1 equivalent of aluminium, 5 ditto of iron; second, 2 equivalents of aluminium, 3 ditto of iron. The last alloy presents the useful property of not oxidizing when exposed to a damp atmosphere, although it contains seventy-five per cent of iron.”—*British Association for the Advancement of Science.*—*London Athenæum.*

Puns for Dentists.—What street in London puts you in mind of a tooth which has pained you for a long time? Answer—Long Acre.

When should you apply a *sovereign* remedy to your tooth? Ans.—When it is *a-king*.

By what ejaculatory exclamation would you declare that your tooth pained you? Ans.—It aches, *by gum*.

Why does an aching tooth impose silence on the sufferer? Ans.—Because it makes him *hold his jaw*.

To what town in Poland should you go to have it extracted? Ans.—*Pultusk*.

Which of your teeth are like a mantuamaker's fingers and thumb when she is cutting out a dress? Ans.—*Incisors*.

When do your teeth usurp the functions of the tongue? Ans.—When they are *chattering*.

Why, is it then not to be wondered at that your teeth cause frequent disturbance in your mouth? Ans.—Because they often make there more than *one row*.

UTICA, December 3, 1855.

MESSRS. JONES, WHITE & McCURDY, *Philadelphia*.—Will you do us the favor to publish in your January News Letter, the subjoined article from the New York Dental Recorder, for November, 1855, and very greatly oblige,

Yours truly,

A. J. WATTS & Co.

CRYSTALLIZED GOLD.

“When Dr. Watts first attempted to prepare a form of sponge or crystalline gold for filling teeth, he experienced great difficulty from his ignorance of the details of dentistry. If he had been thoroughly acquainted with the modes of manipulation by which unexceptionable gold plugs were produced in the mouth, and with the varied influences by which their integrity may be subsequently endangered or destroyed, the profession and himself would have been saved a great deal of time, trouble, expense and mortification. Being, however, professionally and practically a chemist, he was obliged to appeal to dentists for their judgment and counsel. With this view he submitted a form of prepared gold to a few of the best operators with whom he was at that time acquainted, and upon whose judgment he thought he could most safely rely.

“To these persons it was a new and extraordinary thing. Its singular qualities—the peculiar mode of using it—and the results attained with it were equally remarkable. They were ‘astonished,’ ‘delighted,’ in the heat of enthusiasm, reported it ‘the greatest discovery of the age,’ and in letters to the Dr., it was lauded without limit, and set down as already a ‘perfect’ thing. It was further said, that slight experience would enable comparatively unskillful persons to accomplish better work with it than could be produced with foil in the hands of operators of tried skill and larged experience; that its use required less time than foil, while it could hardly be said to require *skill* at all. All this occurred before the gold had been offered for sale, or any directions published for its use.

“The truth was, that crystal gold at this period should have been subjected to rigid, critical trials and tests, particularly the “test of time,” that Dr. W. might have had an opportunity to remedy its defects and perfect its character; but, he was unfortunately led to believe his first article to be all that the profession desired, and the prepared gold was therefore sent out to the world accompanied by ‘directions’ entirely authorized by the honest but incautious judgment so far rendered upon it. The profession were therein told that crystal gold required for its successful use, comparatively little time and skill, and that no specific instruments were necessary—the end of a broken file ‘working admirably!’

“This was a great blunder—more—it was a *disaster*! It not only justified but directed carelessness, and gave an entirely mistaken idea of the requirements and qualities of the gold. If a dentist, with some clumsy tool, perhaps the ‘broken file’ aforesaid, filled a large cavity

half prepared, and the plug less than half condensed, subsequently came out or went to pieces, he had followed 'directions,' and charged the failure to the 'gold.' The 'directions' were at fault, sadly, entirely, yet in preparing them, the Dr. had been misled, as just stated.

"As might be supposed, or at least, as we can now plainly see, crystal gold sent out in this way, met with a singular reception. The too sanguine operator expecting too much with inadequate labor—with instruments, at best inappropriate, and most likely none at all to the purpose—released from any obligation to practice proper skill and care, essayed to fill teeth with sponge gold, and at once encountered difficulties. The Dr. was straightway inundated with letters from all directions; the general idea pervading them, seemed to be, that the writers had discovered valuable qualities in the new material, which they were anxious to make available to the fullest extent, and each would suggest some specific change, which would improve it for *his* purpose. One wanted it harder—another, softer—with one it crumbled, was too adhesive, or not adhesive enough, and so on; and here the Dr. committed the second great error.

"Being so perfectly conversant with the laws regulating the crystallization of gold, in the large field opened up by his discoveries, as to be able, at pleasure, to vary the qualities and characteristics of the new material, and only anxious to learn what precise form of production the profession *wanted*, he actually undertook to manufacture varieties differing sufficiently in character to please this whole mass of correspondents; hoping, thereby, to hit upon the *single* form which would please them *all*. A great amount of time and money was wasted in this effort, and herein is the real cause of the great number of forms and qualities of prepared gold which have been manufactured here and sent over the country; their number and variety being distracting to the Dr. as well as the profession, and giving just cause for what came to be the general belief, that this diversity arose from some difficulty in the process of manufacture, and that uniformity was really unattainable, *which neither is, nor has, at any time, been true!*

"The great confusion produced in the laboratory by attempting so many changes and modifications, necessarily interfered with the regular details of the manufacture, and hence it was, that impurities occasionally escaped detection. This accounts for the discolorations that have been noticed, a result deplorable in the extreme, but now most certainly and reliably guarded against.

"This defect was, as we state, purely accidental; the process of manufacture involves no sort of necessity or excuse for the slightest impurity, and our determination to manufacture but the one variety, affords an additional security from such hazard.

"In the course of this general effort to please every body, a series of dark-brown or wine-colored formations were produced, which possessed peculiar properties. Although not so yielding or plastic in the mass as the brighter forms, they were greatly admired for their *adhesiveness*, and had at once many friends. The general report coming to us, was, that the brown varieties wasted more or less, but readily

adhered on pressure, while the bright varieties did not waste at all and did not adhere so well.

“Experience has since demonstrated the following facts in reference to these two varieties of prepared gold :

“The bright forms, upon comparatively slight pressure, condense *solid*. If the face of the instrument used is *smooth*, though *uneven*, the added piece does not adhere, but comes up, taking a *perfect impression* of the portion already condensed ; so perfect is its plasticity, and so fine its structure, that it will take a perfect impression of the most delicate etching, on steel or copper-plate, and completely render every inequality visible through a microscope of high power. But this very quality, invaluable and *perfect* in this material, requires that it should be continually worked with *sharply and finely-cut surfaces*, that the bearing surface of instruments should be always *kept sharp*, in order that the working surface of the plug may remain sufficiently rough for the new gold to obtain a hold upon it. The *chief*, almost *sole* requirement of this gold, is *proper tools* ; and the profession, as a mass, had anything but proper tools.

“On the other hand, the brown varieties were more deceptive in their character, and by reason of their greater adhesiveness. The operator could, with the imperfect instruments then in use, and with a certain amount of pressure, produce plugs which were very hard, and to all appearance solid ; but which, when examined by the aid of the microscope, were found to be not solid but porous.

“It was into the (to the eye) invisible, but innumerable interstices of the apparently condensed mass, that the added gold insinuated itself. Though packed with comparatively smooth instruments, it would still, in this way, adhere finely ; and yet this quality of adhesion was due to an imperfection. Operations of this character failed, would crumble to pieces and fall out, authorizing the statements about brick-dust, &c. A greater amount of pressure would make a plug more lasting in its character, but still leave it sufficiently porous to admit of the absorption of moisture. Still greater pressure would obviate the danger from the absorption of fluids, and yet leave the plug lighter than perfectly solid gold. And though perfectly solid plugs have been, and can at any time be made with it, such a result required very perfect instruments, great labor, time and patience.

“Nine-tenths of all the complaints which have been made against crystal gold—well-founded, ill-founded and unfounded—except, perhaps, the more or less slight tendency to crumbling, and therefore waste, which distinguished all the earlier productions, are due to these brown varieties, aided by the want of proper instructions and appropriate and well-made instruments.

“From all this, it became evident that crystal gold had pressing need of tools made for and adapted to itself. We at once determined to publish a popular treatise on the qualities and use of the gold, embodying all the available experience of skillful and successful operators, in regard to instruments. Dr. Dwinelle, of Cazenovia, N. Y., who had great experience in the use of all forms of crystal gold, and who was, with unvarying certainty and success, accomplishing with it the most aston-

ishing triumphs, prepared this 'Treatise' for us in an able and satisfactory manner, its sole defect consisting in the inability to distinctly represent, by means of plates, the most important peculiarities of the instruments. We furthermore resolved to modify the character of the dark varieties, gradually approaching, as nearly as possible, the brighter forms, and, so soon as the 'Treatise' and right instruments could be prepared, to cease their manufacture altogether. Accordingly, since about the first of July last, none of the brown varieties have been made.

"Now, although in the hands of the same operator, *with right instruments*, there could be no just comparison, in all essential characteristics, between what we have termed the brown and bright varieties, yet we feared to let this *best* material go at once out among the profession, to be manipulated and tested with the instruments in general use, although we had, perhaps, from being originally misled, as before stated, contributed more than all others, to introduce and justify the use of poor tools. We therefore refused the repeated request of Dr. Dwinelle, and others, (that we would send it out) solely on the grounds stated, that some general knowledge of the characteristics of crystal gold, and some specific knowledge of proper instruments should precede its general introduction. Our course, in this respect, has given offence to some persons, and we *may* have been wrong, but when the experienced dentist, with the *best* of instruments, shall try his hand upon the gold *now* sent out from this establishment, we think he will endorse our course, and thank us for it.

"The 'Treatise' and the efforts of manufacturers of dental instruments, to whom we are under obligations, have so far removed this difficulty, however, that this 'reserved' gold is now *only* manufactured.

"This highly 'improved,' and as we regard it, '*perfected*' article, is claimed to be free from the objections which have been urged against any previous form of sponge or crystal gold. It is soft, silky, not friable, condenses readily, makes a perfectly solid plug, with less pressure, than the other varieties, and will not change in color, permanence, or other characteristics, in or out of the mouth, in the least. We are entirely aware of the great breadth of this statement, but we are willing to put every thing at hazard on its absolute truthfulness. It *must* (we have explained why) be used with finely and sharply cut points, and be thoroughly condensed, yet it requires less pressure, to secure perfect consolidation, than any other form of gold now used.

"We know that the varying character of crystalline gold as heretofore made, its often real defects, and the difficulty, in most cases impossibility, of obtaining fit instruments, have prejudiced and weaned many from its use altogether. Yet the universal response to us proves that few such have failed to discover qualities which would render it invaluable in their hands if not linked to imperfections in the material and uncertainty in the manufacture. To all such, and the entire dental profession, we say that the period of trial, experiment, change and uncertainty has passed. We make and abide by the merits of but one form of gold—uniform in all respects, except in the different density which distinguishes the various numbers—susceptible of every use.

and competent to every triumph which the most ardent admirer has ever hoped to accomplish with it. A. J. WATTS & Co.

"Utica, N. Y., October 27, 1855.

"All persons having prepared gold, manufactured by us previous to the first of July last, are requested to forward the same to us and exchange it for the perfected article. A. J. W. & Co."

Drying Cavities Preparatory to Filling.—All are aware of the importance of having the cavity and the gold perfectly dry in filling teeth. Various expedients are resorted to, to get rid of the moisture. Cotton, wool, prepared flax fibre, tissue paper, buckskin, &c., have all been used, and with any of them, the moisture is mostly removed, but absolute dryness is not secured. This may be obtained by throwing a jet of warm air into the cavity, after wiping out with cotton. A convenient, and perfectly successful mode of effecting this, is to construct a small blow-pipe, with a chamber, after the general form of Berzelius' blow-pipe. This chamber may be a cylinder $\frac{1}{8}$ or $\frac{1}{2}$ inch in diameter, and $\frac{1}{2}$ or $\frac{3}{4}$ inches long, made of moderately thick sheet brass; the jet may be of any desired length, and curved as convenience requires. The pipe is then to be attached to a minute box-hand-bellows, and the instrument is ready for use. Should any prefer it, a small foot-bellows, with flexible tube, may be used instead of the hand-bellows.

Directions.—Warm the cylinder to the desired temperature, over a small spirit lamp; gently force the air from the bellows into the tooth cavity. In passing through the cylinder the air is heated. Care must be taken that the temperature is not raised too high.

When the cylinder is of proper thickness, say 18 or 20 of Stub's gauge plate, and the outside properly polished, to prevent radiation, it retains its heat for several minutes. By coating it with silver and burnishing, it retains it still longer.

By the use of this instrument, a cavity, which has become flooded, when partly filled, may be perfectly dried, and the operation finished, without the removal of the gold already inserted. Those who try the instrument, we think, will not be content without it.

Dental Register of the West.

TAFT & WATT.

Errata.—On page ninety-two of the present issue, an error in spelling occurs, which escaped the attention of proof reader, as follows: The word *came*, in the sentence "has a Daniel," etc., should be *come*.

Chloroform, or its vapor, has been used frequently since Hardy's paper in the Dublin Journal, in November, 1853. The results have been variable, but in many cases insensibility has not been caused. Fiquier has used warm chloroform vapor, a little apparatus being used, with a small spirit lamp, over which chloroform vapor is driven.—*Mont. Mon. Journal.*

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY
FOR MEDICAL OBSERVATION.

BY S. L. SPRAGUE, M. D., SECRETARY.

Dr. Cabot exhibited to the Society pathological specimens from a young man seventeen years of age, who had necrosis of a portion of the superior maxilla. Two months ago, the patient had the right lateral and both central incisors of the upper jaw filled, and into the former, some preparation was introduced for the purpose of killing the nerve. One month since, he first had pain and soreness in and about the lateral incisor, which very soon extended forward to the median line, and backward as far as the place from which the first molar had been removed, six months previously. The cheek swelled so much that it was impossible to open the right eye. At the same time, some swelling appeared about the palatal and alveolar processes of the right superior maxilla, and has continued to increase gradually to the present time.

Three weeks ago, an abscess pointed just above the lateral incisor; it was opened, and discharged a considerable quantity of offensive pus. Even then, all the teeth of the right half of the upper jaw, excepting the second molar, had become loose; the lateral incisor so much so, that it was easily removed with the fingers.

From this date (April 29) the pain has not been acute, but dull and heavy. The abscess then opened, has since filled twice, and discharged itself spontaneously. During the first week there was considerable fever. No dead bone has ever been thrown off.

May 19th.—The patient now presents himself with the right cheek rather larger than the left. There is much swelling of the gum, extending along the roof of the mouth to the median line, and limited posteriorly by the second molar, which is perfectly firm. The part feels soft, and is moveable; the probe detects naked bone, and motion gives an indistinct crepitus, and there is fluctuation where an abscess before pointed. Patient was etherized, and an incision was made along the edge of the alveolus, the knife being carried vertically. Four teeth were then extracted, and several irregular fragments of bone (one as large as a walnut) were removed. There was but little hæmorrhage.

21st.—Patient has been very comfortable, and has not felt the slightest inconvenience from the operation.

Dr. Cabot also mentioned the case of a child, twelve years old, who had had one of the middle incisor teeth filled with an arsenical preparation for the destruction of the nerve. In a few hours the patient had great pain in the tooth, the face was swollen, and all the teeth became loose, so that they could be moved. Six weeks afterwards he came to Dr. Keep, who advised that they should be removed, which was done. There was an opening in the cheek through which several pieces of bone came away, and this continued six weeks before all the pieces were removed. Dr. K. has had several cases where teeth were filled with arsenic in which such results followed, and in the case of Dr. Cabot, Dr. K. thought they arose from the same cause.

Dr. Cabot thought it merely destroyed the vitality of the tooth,

which then acting like a foreign body, produced ulceration of the alveolus and necrosis. The attachments around soft parts were perfectly healthy in both Dr. C. and Dr. K.'s cases.

Dr. Slade asked whether exposure to the fumes of phosphorus might not have been a cause of the disease. He had seen a case somewhat similar in a girl eighteen years of age, who came to him for advice. An incisor of the upper jaw had been extracted. The cheek became swollen, and a small portion of bone followed the exit of the tooth. A molar next became loose, and was extracted, and thus the teeth continued to become loose, and were extracted one after the other for two years. Now she has lost all the teeth up to the middle incisors. There was a constant discharge of pus, and a probe passed into the cavity of the antrum. The girl had worked in a factory where friction matches were made, and he attributed the disease to phosphorus. In this case, also, the gums were perfectly healthy.

Dr. Cabot said there was no chance of poisoning by phosphorus in the cases he reported. One of the patients was a school girl, and the other a young man in a comfortable condition of life, not obliged to work for a living. Poisoning by phosphorus was slow, and required time.

Dr. Williams spoke of the practice of some dentists and surgeons, of trephining the alveola and removing the decayed bone.

Dr. Ellis inquired if it was a common practice to make use of arsenic for preserving teeth.

Dr. Cabot replied that it was not employed now by respectable dentists in this country. Teeth filled with arsenic, he was informed by Dr. Keep, all turned to a mahogany color.

Another morbid specimen was exhibited by Dr. Cabot, from a young man, twenty years of age, who had had for two years a tumor near the cervical glands, which increased rapidly and was removed on May 19th. It was about the size of a walnut, smooth, and on being cut open, looked like a scrofulous testicle after cheesy matter had begun to form. The tumor was examined microscopically by Dr. B. S. Shaw, who made the following report:—

The tumor was evidently an *hypertrophied gland*, as its lobular structure lined with epithelium was readily seen. A few fibro-plastic cells and nuclei were intimately mingled with it. The softened yellowish portions distributed through the gland, which had very much the appearance of tubercle, presented under the microscope epithelial glandular cells, filled with granules.—*Boston Medical and Surgical Journal*.

We have given the above extract for the sole purpose of showing, (what we have often asserted,) how lamentably ignorant the medical profession have shown themselves of the diseases and treatment of the human teeth.

Here they talk of "*filling*" teeth with arsenic, and one asserts that teeth filled with arsenic "all turned a mahogany color." If we are to understand by this that the teeth were literally filled with arsenic, and

the filling retained, we could hardly wonder that in a few cases such would be the result, but when this assertion is taken in connection with a preceding sentence in the same paragraph, and also, with that of Dr. Cabot, "that it (arsenic) was not employed now by respectable dentists in this country," we must conclude that the meaning is, teeth *treated* with arsenic, not filled. But is either assertion true? Do all teeth treated with arsenic turn a mahogany color? And have all respectable dentists of this country abandoned the employment of arsenic? We deny both the assertions unqualifiedly.

In the treatment of deciduous teeth we think the employment of arsenic of questionable propriety, but in that of the adult teeth, where the nerve is exposed and its (the nerves) removal thereby rendered imperative, we certainly must endorse its employment, and so will a goodly portion of our most respectable dentists, and if its application be made by a judicious operator, and in a proper manner, and in due time removed, and the cavity well filled, we have very little fear of a dislocation of the tooth.

J. R. M'C.

Roman Dentists.—A writer in the New York Daily Times alludes as follows to the antiquities of the dental art: From Lucian, Pliny and Martial, we learn that teeth made of ivory were used by the people of their time, and that single teeth were often inserted, bound with gold wire. The two following quotations from Martial leave no doubt that the Romans used artificial teeth, and that the latter were well made, too:

Sic dentata sibi videtur Ægle
Emptis ossibus, Indicoque cornu."

Martial, Lib. 1, 72.

If teeth like thine, lady, we would display,
With purchased bone and horn of India
Our mouths must be arrayed.

"Thais habet nigros, niveos Lecania dentes,
Quæ ratio est? emptos hæc, habet, illa suos."

Martial, Lib. 5, 44.

Thais has teeth so black; Lecania, white;
Seek you the cause? Lecania's teeth are bought,
While Thais wears her own.

No professional man lives so much from hand to mouth as a dentist.

A CASE OF SALIVARY FISTULA.

BY F. H. BADGER, M. D., DENTIST, OF NASHVILLE, TENN.

In July last I was consulted by Mr. D——, aged about twenty-eight years, (a consumptive,) for salivary fistula, produced from a carious upper molar tooth. The saliva proceeded from the left parotid gland, and was discharged externally on that side of the face by two openings near each other, situated opposite the upper molar teeth, and in the centre of a red scar of uneven surface the size of a half dollar.

The abscess which had formed at the root of the tooth, instead of discharging within the mouth, as is usual in such cases, had pointed upward and outward through the substance of the cheek.

He had consulted two dentists, and one physician, but as he never had pain in the tooth it was not suspected until some weeks before I saw him; it had been extracted at his own request when it was discovered to have been the cause, the discharge of pus having ceased within a few days after the removal. The only annoyance complained of at the time I saw him, was the continued discharge of saliva from the outside of the cheek, which became profuse when eating, insomuch that it was difficult with napkins bound round the jaws to prevent it from running over his clothes at meal times.

Having placed him in my chair, it was by the most careful examination that I was enabled to discover the mouth of the duct, through which the saliva had long ceased to flow. It occurred to me that if this could be re-opened and the proper pressure applied over the external artificial openings the saliva would be forced into the proper channel and a cure effected. I was the more encouraged in this hope as the openings were tender and in a condition to heal. Accordingly a very small, smooth, pointed stylet, or gold wire, was selected and by a gentle rotary motion passed into the duct until it reached the path of the new opening, and on withdrawing it a drop of saliva followed.

A piece of India rubber of the proper size was then cut from a sheet about one line in thickness, and applied over the artificial openings. This substance was chosen for its aptness to adapt itself to the inequalities of the surface; a pledget of cotton was then placed over this, and a handkerchief tied over the jaws to retain it. The saliva was immediately forced into the proper channel, and ceased altogether to flow externally; the bandage was kept in place until the next day, when it was removed and the parts found entirely dry; it was replaced, however, sometime after, and it was advised to be worn some days longer. In the mean time the gentleman left, but it is believed a cure was effected.

Nov. 3, 1854.

West Jour. Med. & Surgery.

We remember hearing the story of a dentist who, to overcome the annoyance of a profuse discharge from the salivary glands, plugged them (the ducts of steno) with pieces of soft wood, but thoughtlessly neglected, after he had completed his operations on the mouth, to remove the plugs, and thus allowed his patient to leave him; but the annoyance they occasioned compelled the patient, who fortunately possessed enough intelligence, to remove them himself, otherwise a similar difficulty to the above might have ensued.

J. R. M'C.

Painless Tooth Extraction without Chloroform. With Observations on Local Anæsthesia by Congelation in General Surgery. By Walter Blundell, Surgeon Dentist, London, 1854. pp. 64.—Though written in too partly a spirit, Mr. Blundell's tract may be recommended to perusal as containing much interesting matter. Dr. Arnott's proposal to produce temporary annihilation of local sensation by intense cold was at first disregarded; but now almost every day furnishes us with some testimony of its value. We have no doubt the method here proposed will become still more general with respect to the minor and superficial operations, and it may be applicable, for aught we know, in the practice of dentistry. Nevertheless, we shall require far more evidence than at present exists in support of its power of curing (!) cancer, its availability where *deep* incisions have to be made, and its *never-failing* immunity as respects devitalization, &c., of the tissues to which it is applied. Mr. Blundell has invented a particular apparatus for the production of intense cold, capable of producing it in very limited spots, and such as are difficult of access. Stumps and large molars are removed, according to the author, without the least inconvenience.

Lond. Lancet.

Death from Chloroform.—At the University College Hospital, the administration of chloroform was deemed desirable, in order to facilitate the introduction of the catheter, in the case of a man aged twenty-nine years, suffering from retention of urine. On its full action having been induced, the patient's breathing became stentorous, and the face suffused. Notwithstanding the use of every means by Mr. Erichsen, the patient died in a few seconds. On examination, it was found that the heart was large and flabby, weighing twelve ounces. The muscular fibre had undergone fatty degeneration, the transverse striæ having been converted into small fatty particles.—*Med. Times and Gazette*

The Grand River (Michigan) Eagle, which has evidently cut its eye-teeth, gets off the following in relation to the marriage of a dentist:

The deed is done! How Cupid's forceps draw!
Not one poor fang—but a whole life of jaw!
No more shall molars and incisors gleam
With ghastly horror through his lonely dream;
Or brooding nightmare sleep's pure joys eclipse,
With rows of blood-stained, pain-distorted lips;
But pouting beauty teach his heart to feel
Where kisses revel is no place for steel.

The heirs of a Parisian dentist have recently brought suit for the recovery of four thousand dollars for twelve sets of artificial teeth furnished from 1841 to 1852, to a countess famous at the restoration for her wit and beauty.

Dr. William C. Starbuck, formerly of Nantucket, Mass., has been appointed dentist to the royal family of Portugal.

THE DENTAL NEWS LETTER.

VOL. IX.

PHILADELPHIA, APRIL, 1856.

No. 3.

VALEDICTORY,

Delivered before the Graduating Class of the Philadelphia College of Dentistry, at its Fourth Session, February 29, 1856.

BY PROFESSOR FLAGG.

GENTLEMEN:—It becomes my pleasant duty to greet you upon this occasion with the hand of fellowship, to bid you on the part of the Faculty, a hearty welcome into the ranks of our profession.

Having complied with the requirements of our Institution, in every essential we deem necessary for a proper qualification for the practice of our art, we have thus publicly conferred upon you such credentials, as, we trust, may secure for you that public confidence so desirable for your success in your future professional career.

The race of life is now fairly commenced. You possess hearts light, free and sanguine; health equal to your requirements; and confidence in the extent and fullness of that field which now lies open to your labors. What more do you require to secure for yourselves the means of a comfortable enjoyment of this world's goods, in the ordinary understanding of this condition? Is it the influence of friends you desire, to assist you to that position, too early coveted by the young in all professions,—I mean that which is usually denominated “a full practice?” Is it that you intend *all* your hours to be occupied in the strictly mechanical or manipulative department of your calling, upon which you would rest your happiness and reputation? Or, do you look for some fortunate, *lucky hit* in the way of *scientific discovery*, that shall have a tendency to blazen forth your name as one of peculiar and exclusive genius? I have thus abruptly, and at the very outstart, placed before you a series of questions, upon which I shall mainly predicate the subject of my remarks to you this evening. I trust the very homeliness of their aspect will be a passport for their honesty, and thus at once secure admittance for your candid consideration.

You have made choice of a profession embracing within its requirements as large an amount of artistic skill, combined with literary and scientific investigation as any man can well acquire, even though he gives the whole of his life to its pursuit. A profession, based upon

principles thus broad, and acknowledged to take high rank in its character for beneficence, needs nothing, gentlemen, at your hands to sustain it in its elevated position. It has become a fixed fact, so to speak, and there is nothing which you or any other class of men can possibly do, that will in the least add to or take from its respectability. There was a time, indeed, long years ago, when Dentistry and Surgery were confined to the rude hands of barbers and empirics; and there can be no greater evidence in my mind of the holiness of the mission of our profession, else had it been strangled in its infancy by the very hands of its nurses.

Dentistry was born when "*mercy*" stood forth and sadly smiled at one of the greatest missteps of civilization. The violation of those simple primitive habits of our ancestors which caused them to seek their food more for its alimentary constituents than its palatal titillation, led directly to the *necessity* of such birth. Hence, we may possibly be styled the legitimate children of Mercy and Epicurus. Genealogy, however, is not the object of my discourse at present, so much as the generation of the time and its prospective destiny.

It is very common for us to speak of Dentistry as being at present in its "infant state." This is true only of certain *features* which pertain to it; and is as misapplied as would the term be to the most ancient city in the world, merely because its inhabitants had concluded to become honest or industrious. There is one youthful point in our history, however, which I believe is looked upon as possessing peculiar marks of verdancy, both in an agreeable and an objectionable construction of the term. It is within the recollection of many of the practitioners of the present day that much secrecy was observed, and but little sociability existed among its members; with such, at present, holding these exclusive sentiments, a just appreciation cannot be held in view of admitting as our equals, *all* who will earnestly and properly prepare themselves to discharge its duties. Such men have been fearful that the ground occupied by themselves might become invaded to their pecuniary detriment; and where, if they could be prevailed upon to instruct at all, they required a *pledge* that their pupil should not locate himself within forty, fifty or one hundred miles of his preceptor; is it to be wondered at that such men should look upon the present mode of liberal instruction as an evidence of *weakness*?

Others, let us rejoice, have seen in the present ample cause for making better preparation for the future, and this I believe to be the true *oasis* or field for cultivation, whereby old hearts may be kept constantly green in the discharge of agreeable duties.

In the present condition of Dentistry, we find many engaged, who sadly feel their want of suitable instruction as a basis for their operations. From this class there has been quite a number to present themselves as pupils *de novo* and are now availing themselves of such advantages as our schools may afford. Still there are many who, as a dernier resort, are yet engaged in a practice, of whom it may most emphatically be said "they know not what they do." Those evils suffered now by the community, and that odium which has so unmeritedly attached to our calling, are fast becoming corrected.

You have just passed an epoch of your lives, gentlemen, that must fully satisfy you of the fact that Dentistry is not acquired in a day, so to speak, and that to obtain such knowledge even as shall but have a tendency to deter you from perpetrating similar mischief as that to which I have alluded, has required much patient study and laborious practice to achieve. A continuance of those rules of systematic arrangement now acquired in the time of your pupilage, is most earnestly recommended for your future observance.

It is *not* really desirable either for your own good or for the interests of those who may hereafter seek to secure your services, that you at once fall into extensive and constant practice. There is a duty which devolves upon you of much higher consideration than mere dollars and cents; and time must be given to the performance of those duties, if you desire or expect to maintain a position even respectable in these regressive times. Hours of study, time for relaxation, and wholesome creative exercise are absolutely required, that you may not only keep posted in the constantly improving condition of the profession, but that your physical energies may be as regularly recuperative as the tax upon your muscular and nervous waste may from day to day become needful.

It is no sinecure to fulfil the duties of your office; they are manifold, intricate and fatiguing, oftentimes trying to your own nerves, as well as to those of your patients. The very *attitude* you will be compelled to assume, with all the facilities at your command, will frequently see you into such unnatural, distorted position of the body as of itself to be exceedingly uncomfortable, independent of the labor required under such disadvantages. Cases will often present themselves, and particularly in young and sensitive subjects, that will so far strain your own sympathies as frequently to unfit you for a continuance either mental or physical exertions, and until sufficient time has elapsed to recover that healthful tonicity so essential in our own con-

dition, it is most assuredly desirable to suspend all labor and seek repose.

From the eminent success of leading men in our art, it has become the established prevailing opinion, that the work of *our* hands must, of necessity, be more enduring than that which emanates from any other source.

The product of the silversmith, the blacksmith, the wheelwright and others is expected to fail and come to repair. The stoutest ship may in a moment become a worthless wreck; but if the underwriters are sound, the matter is soon forgotten and passes away. Not so with our department. There must be no failure here; congenital predisposition to caries; the variety of abuses immediately inflicted upon the organs under our charge, as well as those indirect injuries consequent upon sympathy with other deranged parts, afford but little apology for subsequent decay in a tooth that has once been filled by the dentist.

Trials of the foregoing character, and those growing out of petty annoyances from the great variety of dispositions with whom you will be thrown in contact, are not, I fear, among the least of those troubles you will be called upon to brave, nor are they, I fancy, duly appreciated at all times by those who seek relief at our hands.

The following may be a tolerably fair sketch of what sometimes happens in a dentist's office in the course of a day. He begins at eight o'clock, (not exactly as by appointment, for the hour was to have been seven, in order to meet another engagement at nine: but the patient over-slept, or over-ate, or over-did the matter in some way to over-shoot the appointment by an hour.) Now, this of itself is of no more consequence than as *punctuality* may be appreciated by the parties concerned; and the matter may be seen in altogether another light, had the patient been prompt and the dentist derelict. Well, the hour has passed, patient No. 2 is waiting. You know his time is valuable, and that he is particularly noted for his promptitude and the excellent system by which all his habits are regulated. He has, perhaps, much incommoded himself in fixing this hour, in order to meet the arrangements of your own engagements. There has been but a beginning in the first case; another appointment has to be made, with all its concomitant doubts. But this is not all: it is not unusual for *such* patients to ask you just at such a time, if you will only look at another tooth, and tell them if *it* can be saved, or what is the matter with it? You look at it, or excuse yourself the best way you can; in either case you must listen to some story about just such a tooth as once happened in the mouth of some member of the family, or so.

intimate friend, and they went to get it out and the doctor could not pull it; and ever so much more. When, if you attempt to cut the matter short, it must be done at the expense of so much politeness, if, indeed, you are not directly chargeable with a certain amount of incivility or undue haste, to say the least. This patient being dismissed, you look for No. 2, but the delay being much greater than was anticipated on his part, has led to his departure to other quarters, where the rules of punctuality are more strictly observed. In his place, however, you find a poor woman, who has been suffering for a long time with a great variety of pains, all about the head and the neck and the jaws. She thinks she must have the neuralgia, the rheumatism, *tic douloureux*, or something of this kind. She has been taking, for a long time, a great deal of medicine for these complaints, and finds herself no better. She is a very poor woman, and has a mouth equally poverty stricken. Upon examination, you discover a condition of things sufficiently sad to throw a small community under the bans of quarantine. Is it a matter of astonishment that our neglected poor are the first to receive the visits of cholera and fevers, when miasm exists in their every breath, from that habitual neglect of their teeth, so proverbial to them as a class? It has fallen to your lot to take supervision of this case, as acts of charity cannot always be shunned, even if we do not seek the opportunity of bestowing favors. Simple prescription will not meet the difficulties of a case like this: you must act, you must do all for this poor subject that your conscience tells you should be done for her relief. She may be grateful or she may not; your reward is not pecuniary. Whilst engaged upon the foregoing case, you are summoned to extract a tooth. It has been suffered to decay to such extent as to be exceedingly difficult of access. Your patient is nervous and timid, affording you no co-operation or readiness to submit to such amount of pain as is necessary to inflict for its successful removal. After exercising your skill for some time, you are baffled, and you feel mortified that the sufferer seems laboring under the impression that the fault is with you. They leave, perhaps with the expression, "they were never hurt so badly before."

The next just wants you to do "a little bit of repairing of artificial work." It is the work of another, and just such work as never should have been made. This mending of artificial, or "plate-work," as it is usually called, most frequently implies the use of fire and the blow-pipe. You are well aware of the very great risk you run in fire cracking the remaining teeth in undertaking an operation of this nature

and few, indeed, are willing to assume the responsibility. That you decline the present case for reasons good in your own mind, is not always a guaranty that a right and charitable construction may be placed upon your refusal.

I have intimated that, as a specimen of mechanism, the foregoing case was one totally unworthy our art. That there is much to condemn in this respect is most assuredly true; and it is a condition that has mainly been brought about, and is still encouraged by those false notions of economy that prevail to a great extent throughout our land. The services of men who cannot excel are brought into competition with honest, creditable, artistic handiwork. The prevailing idea that "*a tooth is a tooth*," and it signifies little by *whom* it may be set or filled, has, most probably, stimulated this cheapening, shopping propensity, with a large portion of the community. It will therefore devolve upon you, gentlemen, not only to hesitate in the perpetuation of such monstrosities by means of repairs, but to educate the *taste* of such persons to the just appreciation of anatomical dentistry.

A little child of five or six summers is now brought in by its very affectionate but misguided parent. It is positively assured that "the doctor is only going to look at the tooth, and he will not hurt you." You are directed, *soto voce*, or by sundry mysterious signs, *to take out the tooth!* My advice to you, gentlemen, is to take no part in such deception. Deceive not the youngest patient that can be presented to you. Never extract a tooth for a child without its full previous knowledge of your intent. If he asks if it will hurt him, you may assure him that you will hurt no more than is absolutely necessary for its removal. Be honest and truthful to a child, and you will secure, at least, its confidence. There are many, however, who pursue the above plan with their children, that cannot properly appreciate such a course on your part. You will consequently have to submit to such report of your conduct on these occasions as they may deem proper to make.

I trust it may not be unwise or irrelevant in this connection to ask if it should be so much a matter of astonishment that strict fidelity and truthfulness is not more universally observed, when the converse is so frequently mixed with the very medicines that otherwise may be calculated to benefit? You will have a moral duty to perform in this respect, and, I trust, you may be fully equal to it.

To complete the labor of the day, you fill one or two teeth under the following circumstances:—Your patient is restless and "nervous," as it is commonly called. You scarcely begin when you are asked "

you are not most done?" "Don't you think that will do?" "Aint you ready yet to put in the gold?" and many similar manifestations of uneasiness; each of which is a direct appeal, if not an inducement to an imperfect operation, and in which, even a *seeming* compliance on your part, will at some future day be set to your discredit. That you are well aware how very important it is, in operations of this character, to be thorough, not only in the removal of all decay, but that the cavity should be made to assume such form as is best calculated to secure its filling, is no evidence that the patient is equally aware of the same fact. And if so, ten to one they would require you to be more expeditious, and then denominate you "rough."

I have presented to you a few of the every-day annoyances to which we are subject; and in no wise have I exaggerated. If, indeed, they may appear as burlesque, the fault must be and abide with those who perpetrate them. My object in condensing them into a single day's amusement, is merely to prepare you for what *may* happen, and to caution you even under those circumstances to so conduct yourselves as to avoid, as much as possible, the *feeling*, and thus the show of irritability.

Let us for a moment contemplate the more agreeable duties of our calling; or rather that condition of the case, though always more or less unpleasant, can be viewed with sufficient philosophy to bear with becoming patience and fortitude those momentary annoyances we are compelled to inflict.

I know of no better method of illustrating this than by the recital of the following incident in my own practice:—For several years past it has been one of my most agreeable duties to have professional charge of a seminary for young ladies in this city. The prominent feature to which I desire to call your attention is this singular fact: that among *all* who have presented themselves for my services from that institution, not one ever uttered a word of complaint, or showed by any manifestation, signs of impatience, even when undergoing, in many instances severe, and sometimes *acute* sufferings. To shrink from pain is natural, and to err is human; but it does not follow as a sequence that we should so ever continue in error by avoiding, inflicting or being the recipients of necessarily painful duties. It is a fact, creditable to us as a community, that we have in our midst seminaries that rank not only high for the advantages they afford in literary acquirements, but that such attention should be given to healthful moral discipline as to enable us to record with truth the foregoing evidence in their present history.

It will be among the highest of your pleasures, gentlemen, that you secure to yourselves the utmost confidence of the best members of the community in which you may reside, both as regards your skill and the entire integrity of your character as men; and that you may early obtain this position, and ever maintain it, you may depend, is the earnest wish of your recent preceptors.

I have said that in no event can anything be done that will have a tendency to impair the *respectability* of our profession, and in this assertion it will require but little reflection on your part to sustain me by similar views. To the noble art of printing are we indebted, not only for the indefatigable scientific researches of the past in this department, but we still will look to it for its future enlargement and perpetuation. To a host of worthies, both within and without the pale of actual operative dentistry, is our homage due for long and patient investigation in that department of the healing art, upon which so much of our comfort depends. It has become reduced to a system based upon purely scientific principles, and requires a degree of intelligence at least co-equal with the progress of science generally in this rapidly advancing age. What then, would I ask, can there be to militate against the respectability of dentistry? Does an imposter of our art reflect upon its real usefulness? As well might we say that falsehood impairs the beauty and holiness of truth; or that the darkness of night is an objection to the bright light of the noon-day sun.

No, my friends, let it be your constant care that each of you, as individuals, merit a position in the ranks of this, as of any other department, and depend upon it, dentistry will, as natural philosophy and mathematics, take most ample care of its own dignity.

It is expected of you that you let no opportunity escape of developing as many of the advantages pertaining to this speciality as you possibly can, for in so doing you but pay a just acknowledgment for the benefits you have and may continue to receive from the labors of others. By adding your united influence in this cause you may indeed do much in dispelling the prejudices that exist in the minds of many, and confirming the views I have thus hastily and I am well aware very imperfectly set before you.

Gentlemen of the graduating class, you are about withdrawing your immediate connection with our school, and will soon depart from our midst; the majority of you to remote parts of our own, and some of you to foreign countries. I trust you may occasionally reflect back upon the scenes of your pupilage with feelings of much pleasure. That you have had an example set you of the most free and liberal inter-

course among the members of our craft residing in this immediate vicinity, (a feature, let me say, peculiarly Philadelphian,) it is most desirable should not be lost upon you. Take with you these liberal principles and disseminate them as seeds for future growth broadcast upon the face of the earth.

In taking leave of you, gentlemen, I feel it just to express my own thanks, and the acknowledgments of each of my fellow laborers in the school, for the uniformly correct and gentlemanly deportment you have maintained during the period of our intercourse. That strict attention and earnest study which has so peculiarly marked the progress of the present class, has tended much in making our own labors as walks of pleasure, and all our duties recreative.

I feel that I cannot bid you, gentlemen, the parting "adieu," without calling your attention to that dispensation which has deprived us of one of our associates at the very commencement of his professional career, one whose future prospects seemed bright and fair; whose circumstances, pecuniarily at least, placed him beyond the necessity of laboring as the faithful dentist it expected to do, yet one who manifested a desire to fill a useful position among his fellow men, has been by death transferred from this prospective toilsome life, to one, I trust, of everlasting bliss. May your kind attentions during the sickness of our departed friend reflect back upon you many fold, and let his early demise be suggestive of the importance to you, that you do so live as to be always prepared to meet a like ordeal, that when you die you may always live.

For the Dental News Letter.

DENTAL COALESCENCE.

MESSRS. EDITORS :—Feeling it my duty, as a member of the dental profession, to report to you a singular freak of nature which has lately come under my observation, and feeling confident that there are a great many of the dental and medical profession who still doubt the reality of such anomalies, notwithstanding they have the assurance of such authors as Bell, Blake, Hunter, Fox and De Lude, besides several French authors, who, I must confess, tax our credulity to no inconsiderable extent, and requiring perhaps a more lively imagination than I am in possession of, to realize the truth of some of their assertions. For instance, De Lude, in one of his notes on dental anomalies, gives the authority of one Monsieur Jasinski, a Polish surgeon, for the following case : A lady applied for an examination to the said

surgeon, for what she supposed to be a tumor in the vagina; after a close examination he performed an operation on the part affected, and to his great astonishment he removed a well defined large molar tooth, with three fangs, from the recto vagina septum, and in two years following, from the same person and from the same place, three well developed incisors, firmly set in alveolia! De Lude very properly adds, were it not for the high medical reputation of his authority, he would be led to doubt the reality of such a circumstance.

After so much digression, I shall now proceed to give you a description of the case in question; although not quite so marvelous as the one I have just cited, I trust it may prove to be equally interesting.

Mr. Watson, a gentleman residing in our city, aged 50 years, called at my office on the 27th of December, 1855, and presented his mouth for examination, calling my attention at the same time to a "twin tooth," as he termed it, in his lower jaw. Upon a close examination I found the left permanent inferior frontal and lateral incisors perfectly united, from the neck up to the cutting edges. I passed a crown lance across the anterior surface of the teeth, in order to discover, if possible, a separation, but to no purpose. I then examined the posterior surface with a mouth mirror, with the same result; then taking a small pointed probe, I passed it between the teeth, immediately below the enamel, discovering by that operation they had separate fangs, after which I took a small excavator, passing it downwards below the margin of the gum, moving it alternately from one fang to the other, until I came in contact with the alveola partition, thereby demonstrating the existence of separate alveola; then introducing a larger instrument, I wedged gently in between them, below the enamel, in order to discover if possible a separation in the crowns, but they remained perfectly firm; the two teeth presented a plain uninterrupted enameled surface, but somewhat shorter than the adjoining teeth. In order that the truth might be established in the mouth of two or three witnesses, I called in W. W. Roman and J. A. Roman, two of the most prominent physicians in this country, and gentlemen of unquestionable medical and surgical ability, also, J. Perryman, M. D., all of this place, who, after a close and careful examination, became fully convinced of the facts I have here stated.

I shall now proceed to offer a few remarks on the case of Mr. Watson, it being somewhat different to any I have ever seen recorded. When we take into consideration the length of time the permanent rudiments remain a vascular mass after the full development of the temporary teeth, and the subsequent neglect in having the tempora

ones removed, the phenomena of osseous union in the permanent incisors will not (on a close examination into its causes) appear as singular a circumstance as we at first may be led to imagine. It is my opinion, osseous union is more likely to take place in the permanent incisors than in the temporary ones. In the first place, the molecule of a supernumerary tooth may have united the rudiments of two incisors, the molecule, by a freak of nature, being placed between the rudiments, and by the gradual developement and enlargement of the said rudiments, and the pressure caused thereby on the molecule, produces a union; thus the molecule becomes incorporated with the permanent teeth; and this seems more plausible, from the fact that supernumerary teeth are never developed until some time after the permanent ones have emerged from the gums. Secondly, the case of Mr. Watson will more fully demonstrate the plausibility of my impressions; I shall therefore annex a sketch,* showing the relative position of the temporary teeth, and the rudiments of the permanent ones, besides a molecule of a supernumerary, which might produce union by incorporation.

The gradual growth of the permanent rudiments, and consequent pressure produced by the fangs of the temporary teeth, would naturally produce a union on the cutting edges of the permanent teeth first; and the permanent rudiments being completely capped by the fangs of the temporary, would retard to some extent the ossification; and more especially where they are united.

And now, gentlemen, in conclusion I would here state, that I have given my views in great haste, and in as few words as possible, hoping it will receive a closer examination by some one of the profession who will be better able to investigate such a subject.

Yours, truly,

JOHN J. PATRICK, *Surgeon Dentist.*

Belleville, January 10th, 1856.

—

We see a great many cases of twin *deciduous* teeth, and suppose the same causes, as yet unknown to us, produce them in the *permanent* as in the deciduous. We have three specimens of twin molars, two deciduous incisors, and two permanent lateral incisors, and one specimen of twin bicuspids.

J. D. W.

* We omit the sketch, as being unnecessary, the description without it being perfectly clear.—ED.

MATERIAL USED FOR FILLING TEETH.

Amongst the numerous articles on filling teeth, I have seen but little said about *the material used for that purpose*; I therefore throw forth the following hints, which I hope may be the means of enlisting more *attention on that subject*.

Gold foil, we all know, as yet is the best and purest material we have for filling teeth. But, as all gold foil is not pure, and much that is pure is not fit for use, it requires very nice discrimination to detect the good from the bad. We should remember that gold is always worth its value, and that it requires nice manipulation and much experience to convert it into good foil; therefore, unlike other articles of trade, it can only deviate in price according to the value of the labor bestowed on its manufacture. We see that the foil of every maker sometimes varies in texture and evenness and even tint, and that all has a tint and texture peculiarly its own, and as all profess to make a pure article, there certainly must exist a great difference in the manufacturing process. If any extra labor or precaution can overcome this variety of texture, evenness, &c., so as to produce uniformity at all times, it certainly should be put into requisition, for he that has not *excelsior* at his eye's point, is certainly blind to his own interest. For my part, I would much rather pay a little more for this *extra labor*, and feel confident in using a good article, than a little less and feel suspicious. The brittle character that is frequently met with in foil, is not often attributable to any fault in its manufacture—it is more often caused by exposure to a changeable atmosphere. To prove this, take a leaf of No. 4 foil, wet and then dry it at a slow heat, or place it in a damp room and then in a dry one, letting it remain in each two or three days, it will then on trial be found unfit for use. Just so does it contract its brittle and stiff quality, by being exposed in the shops for sale, or coming a great distance by mail, badly done up. To prevent this, foil should be ordered fresh from the maker, and when received, placed between two plates of lead, each weighing from five to six pounds—of sufficient weight to exclude the air and also to prevent any sudden change of temperature. However, when this brittleness does occur, and it is owing to exposure, it can be overcome by Dr. Arthur's process of annealing, which is certainly one of the most beautiful little auxiliaries that we have. It simply consists in rolling the foil up loosely, preparatory to cutting it into pellets and quickly passing it through the flame of a spirit lamp.

Another very disagreeable feature in gold foil, which sometimes

proves very annoying, is its liability to tarnish on the buccal surface of superior incisors ; and here the question naturally arises, are the corrosive agents of the mouth sufficiently strong to tarnish pure gold ; if they are not, they are strong enough in many mouths to corrode the purest foil in use. Some months since I filled a large cavity on the buccal side of a superior incisor ; a few days after, being placed in lively conversation with the patient, I had the mortification of seeing my filling present a tarnished face. As this patient was wearing a plate composed of twenty-two karat gold, which did not corrode, I therefore became somewhat anxious to know whether or not the fault was in the foil. Accordingly, I procured a small piece of pure gold, such as is used for platina work, this, by repeated annealing and passing through a good rolling mill, I reduced to about No. 10 foil. I then removed the tarnished foil and filled the cavity with *home-made*, in which I succeeded much better than I could have expected—as, after repeated examination of this filling, I have not been able to detect any change. I have therefore come to the conclusion that the fault must have been in the foil. Perhaps it may be attributable to the mechanical or chemical process which it is subjected to in its manufacture, for I cannot but think the foil was pure. But as I have never seen any discoloration in good foil in the mouth, except in the buccal cavities, the location of these cavities themselves may have something to do with the cause. Again, as those cavities are located in a part of the tooth that is shown more than any other part, they become sometimes very annoying, for the patient and his friends seeing the discoloration in the gold, are not unfrequently led to evil thoughts thereby, about the honesty of the operator. Now, while we admit that gold, carefully procured and prepared, is decidedly the best material for filling that we have, we must in the same breath admit that it is not equal to our wants. It has been said by some one, that a tooth worth filling at all is worth filling with gold ; now, this is very pretty theory, but how are we poor dentists to put it into practice, when we have, for instance, a large cavity to fill that will take from eight to ten leaves of gold ; can we waste half a day in filling such a tooth, and then charge no more and not so much as the gold is worth. We can, as has been said, by sharing the cost of material with our poor patient. They that can afford to work by this rule must be pretty well provided with this world's goods, or else they must have very few poor patients. The inexperienced may say, *why not use tin, then, in such a case ?* This would no doubt fill this void as well as could be wished, was it not for its being a little too soft. It does not stand

the wear and tear that it is necessarily put to on a masticating surface; was it not for this, I think it would do nearly as well as gold, for I have often seen tin fillings in side cavities, and some in crown cavities of teeth, that had no antagonists, which were put in as long ago as ten, and some fifteen years, which looked as well as any fillings could after that length of time. From this we may say that tin in side cavities, or in any cavity where it is not exposed to wear, is the best substitute for gold that we have; but in all cases where the teeth come in contact, it will not do; the metal being too soft to resist the grinding process brought against it, soon wears down below the walls of the cavity, thereby exposing the tooth to decay, besides leading the patient to believe that the filling has come out.

I was, a few months back, called on to replace two fillings in the mouth of a gentleman, who said they were put in about two months previous by Dr. M——, and that they had gradually come out. On examination, I found he had had two very large cavities filled with tin on the crown surface of the first and second molars of the lower left jaw. The fillings, of course, in continually masticating on them, soon wore down out of sight, which was as bad as if they were entirely out. Dr. M——, who filled those teeth, is a graduate of one of our best colleges, and although an inexperienced, yet a very neat plugger, he will no doubt continue this practice, like many others, until dear bought experience teaches him his error, and then, with the present mode of operating, he will be little better off, for he will either have to dismiss those cases entirely, or else use gold and go by the rule of sharing the expense with his poor patient, which, if he is poor also, he must think a very poor rule. Now, as gold is too costly and tin is too soft, what are we to do with those poor patients that are continually seeking our aid? The plan that I adopted two or three years ago, I find as yet works well. At first I had many misgivings, on account of two metals being placed in contact in the same tooth, but I can see no difference in placing two metals in contact in a tooth, than in placing them in contact around it—for our clasps are made from two, and sometimes as many as three metals, and they are connected with a plate which, including solder, is composed of as many more; therefore if one is bad the other is worse. But I think the evil is more imaginary than real, for so far I have not been able to detect the least trouble. Therefore, when I have a patient who is not able to pay me the worth of the gold used, (I speak of teeth with very large cavities on their grinding surface,) I commence with tin and fill up the fangs, (if I have removed the nerve,) also the pulp cavity and as much of the crown as

I safely can; I pack the tin perfectly hard, leaving or making it flush, and then with annealed No. 4 gold foil I finish off. I use No. 4 because I find it can be forced into the little threads in the walls of the cavity better than any other number, when annealed. Now, I can not see why such a filling is not just as good as if it was all gold, the tin can not wear nor corrode, for it has not the slightest chance, and the gold on the surface is thick and hard enough to resist all antagonists of the mouth, and as the cost is not more than one-third as much as it would be if it was all gold, we can generally get pay for the gold, if not for our work. I always adopt this plan when I have to fill a tooth on the grinding surface, from which I have taken the nerve, for less than six dollars. On side cavities, when I can not get the price of gold I use tin. In the incisor teeth, tin, or any metal but gold, should not of course be used. All cavities that can be filled with tin, can be filled equally well with gold, therefore we have no inducement to use tin but its cheapness. But we are sometimes called on to fill teeth which apparently exclude the ghost of a chance of using either of the above materials. Though such cases are rather rare, yet they do occur, and we should be prepared for them. Say, for instance, we have a perfect shell of a molar, which the slightest packing of foil would crush to atoms, or a back cavity, (of a serpentine shape, or perhaps extending under the gum,) in a wisdom tooth or the molars in front of it, and perhaps in a mouth not large enough to admit more than two fingers at a time, can we fill such teeth with foil, so as to cherish the slightest hope of saving them? We all know we can not, or at least I, with all the skill I can muster, and fifteen years' experience to back it, find I am inadequate to the task. Now, although in such cases I use *amalgam*, I do not intend in this short article to discuss its merits or demerits. It is sufficient for me to know that with the kind I use I have succeeded much better than I ever could have done with foil. And every now and then I have the pleasure of seeing some old shell which I filled years ago, expecting it to last but a few months, which still looks well, and continues to reward its owner by doing him good service, and myself, by occasionally sending me a new patient. True, could I see one-half of the evils from it, that others say they have seen, or even believe one-fourth what I have heard said by its opposers, I most certainly would discontinue its use for ever. But, until I have more convincing evidence than I have yet had, I will still use it. I don't know that the amalgam which I use is any better, or even as good as that recommended by Dr. Townsend. That which I use has one part more of silver and one part less of tin than

Dr. T.'s; this makes it a little harder, though it takes a little more mercury. Since reading Dr. T.'s article, I have adopted his plan of using it, which is preferable to any that I have seen. In filling teeth from which the nerve has been removed, I first fill the fangs with tin foil, thereby preventing the mercury forcing its way through the foramen of the fang.

F. Y. CLARK.

January 30th, 1856.

From a business letter from Dr. F. Coar, a graduate of the Philadelphia College of Dentistry, now practicing his profession in Germany, we make the following extracts.—ED.

DENTISTRY IN GERMANY.

I have operated for a number of persons connected with several of the smaller Courts of the interior of Germany, and I have no doubt if I were to remain in Frankfort, I should in time establish a very good practice—but as yet I am undecided. In passing, it may interest you somewhat to hear something in regard to our profession here, so I will briefly give you some of the observations that I have made since being here. I find, as a general thing in Germany, that our profession is sadly behind in the perfections which characterize it in our own country. I have been in many of the principal cities, and have had considerable opportunity of observing the character of the work done by German operators; and I feel justified in saying, that they too frequently overlook the best means of preserving the teeth. In the first place, the file seems to be used to an almost unlimited extent, and in many cases I have seen more than one-third of a tooth filed away, in order to preserve the other two-thirds. Although this operation may occasionally check the farther destruction of the tooth; still it leaves it in such a distorted condition, as to render it an object of continual regret to the owner; and as the filed surface is seldom polished, it mostly becomes blackened in a short time, and consequently the tooth is rendered still more unsightly. Filling, or "*plumbing*," as it is called here, is in most cases performed with some of the mineral succedaneums, they being the only articles that the Germans are at all successful in the use of—when I say successful, I mean that those are the only articles that they succeed in placing in a tooth so as to remain any length of time. I have seen whole rows of front teeth filled with these amalgams and presenting all the intermediate colors between chalk and charcoal and as a matter of course giving the possessor a very humiliating

opinion of the profession of a dentist. I have observed many attempts at filling with gold, but rarely have they been attended with success; in fact, the gold that is prepared in Germany, is of such a character as to render it almost impossible to fill a tooth properly with it. I have attempted the use of it on several occasions, and have found it exceedingly difficult to make even a good crown filling with it. I find that it is a customary thing among the dentists here, to defer the operation of filling a tooth until it is very badly decayed; and they seem, from some strange infatuation, to believe that there is but a very short space of time during the progress of caries, that the operation of filling can be performed with success. Frequently have I been told by persons, that they had consulted their dentists, in order to preserve a tooth which they saw was being rapidly wasted by decay, and the only advice and consolation that they have received was, that they must be content to wait until a further destruction of the organ had taken place; consequently they have left, distressed with the knowledge that that which had already become a source of alarm to them, must be permitted to continue unrestrained in its ravages until some future day; and their only hope was, that before destruction was entirely completed, some remedy would be interposed. Patiently they have waited for the time to arrive which would terminate their anxieties; and they again consult their dentist, when lo! they are sagely told, to their dismay, that it is now *too late*, and that nothing remains for them but to have inserted an artificial substitute. Of the different varieties of mechanical work, I shall not speak at present.

Such being the experience of the great mass of the people who have dental operations performed, they have naturally been led to form a very indifferent opinion of the character of the profession, and consequently have placed the dentist in the same category with barbers and cutters of corns, &c.

One word in regard to the prices. In nearly all the German cities they are regulated by law, and do not vary much in different places. The charge for extracting a tooth is twenty kreutzers, (about 14 cents); for "*plumbing*," from one to two florins, (40 to 80 cents;) cleaning one and a half florins; other operations are in proportion. So you see at once one of the great causes of the profession being so badly conducted. Another great hinderance is the absolute restriction of trade which one finds in most parts of Germany, all foreigners being prevented from embarking in any kind of business, and in no branch do the laws appear to be more rigid than in that of dentistry. But

a few days ago an unlucky English knight of the forceps, who was wielding his instruments without permission in Cologne, was suddenly informed by the authorities that it was necessary for him to invest about \$300 in the public funds of the place, and absent himself from society for two months, by taking lodgings in a small room, with iron bars at the front window and a military porter at the door. So long as the people of Germany do not open their eyes to see the injustice of their exclusive system, so long they should keep their mouths shut, in order to hide one of its most pernicious effects. Notwithstanding all those difficulties, I have for the last five months been pretty constantly engaged, and I find that the most persons are willing to pay very fair prices for operations which they believe to be well performed.

I did not receive the last number of the News Letter; recollect that I appreciate it much more now than I possibly could in the United States. *Dental news* is exceedingly scarce in these dominions.

For the Dental News Letter.

THE ETHER QUESTION.

BY JAS. E. GARRETSON.

With the close of my last continuation—deeming a sufficiency written for the object sought—I thought to leave the subject of sulphuric ether as an anæsthetic agent, to an interest which, flattering myself, I trusted might have been excited, and which should ensure the matter the consideration of which I incline to believe it so eminently worthy. To a degree, at least, I am happy in the assurance I am not to be disappointed.

The receipt of letters propounding certain special queries, and which of myself I should have thought to notice; queries, which it is suggested may be possessed of some general interest, prompts me to an unexpected, though it must be a short, continuance of the subject.

The pages of the Dental News Letter I have held, since a first acquaintance, as invaluable to the interest of the profession, and so that account worthy of being most closely economized, sorry therefore should I be, to find I had unnecessarily and unprofitably occupied the space its polite and learned editors so liberally apportion me.

I have seven questions asked me—

Firstly. What is Sulphuric Ether,* and how is it prepared?

* A complete and accomplished work on the subject of Ether, written by P. Flag, of the Philadelphia Dental College, holds, we believe, an authoritative position, and commends itself to all interested in anæsthesia.

I must prelude the answer to this question with the remark, that I hope the number who will find interest in the answer is exceedingly limited. I will answer the queries in part from Fownes.

“When equal weights of rectified spirits and oil of vitriol are mixed in a retort, the latter connected with a good condensing arrangement, and the liquid heated to ebullition, a colorless and highly volatile liquid, long known under the name of ether, or sulphuric ether, distils over. The process must be stopped as soon as the contents of the retort blacken and froth, otherwise the product will be contaminated with other substances which then make their appearance. The ether obtained may be mixed with a little caustic potash, and redistilled by a very gentle heat.

“Pure ether is a colorless, transparent, fragrant liquid, very thin and mobile. Its sp. gr. at 60° is about 720; it boils at 96° under the pressure of the atmosphere, and bears, without freezing, the severest cold. When dropped on the hand, it occasions a sharp sensation of cold from its rapid volatilization. Ether is very combustible; it burns with a white flame, generating water and carbonic acid. Although the substance itself is one of the lightest of liquids, its vapor is very heavy, having a density of 2.586. Mixed with oxygen gas and fired by the electric spark, or otherwise, it explodes with the utmost violence. Preserved in an imperfectly stopped vessel, ether absorbs oxygen and becomes acid from the production of acetic acid. This attraction for oxygen is increased by elevation of temperature, &c., &c., &c.”—See *Fownes' Products of the action of acids on alcohol*, *Fownes' Chemistry*, page 345.

Dr. Jackson's formula for the preparation of ether for anæsthetic purposes is, we believe, as follows: Procuring the strongest and purest rectified sulphuric ether—that just described—wash it well, to get clear of any acids that may remain, then decant from the water, drying it with the chloride of calcium to free it of any water that might otherwise remain from the washing. Different chemists may attain the same ends through different processes; and we would recommend to buy of a reliable and known druggist, rather than attempt the preparation.

Question second.—What quantity of ether may with safety be given patient?

A sense of discrimination must direct the practitioner. It is impossible to fix the dose of vapor that will be required to produce given effects upon any patient; then it is not always easy to ascertain when enough has been administered. We can not rely on the state of the

pupil or the pulse ; perhaps the changes in the breathing is the most reliable sign ; so long as this continues easy and natural we believe there is no immediate danger ; but, as before remarked, the moment it becomes labored we proceed or recede cautiously. In etherizing a patient—believing him a proper subject—we should administer until some countermanding signs stopped us, or until the person was placed in the state desired.

Third Question.—What are the effects of a bad article of ether ?

The operator is unable to produce more than partial unconsciousness, being troubled with a prolongation of that half-way state which has so unjustly reflected upon the general character of the agent. It is almost certain to produce nausea, giddiness, prostration, &c., and should never be employed. If it is impossible to procure a pure article, better have nothing to do with it.

Fourth Question.—What is the effect of temperature over atmospheric air and the vapor of ether ?

The answer to this question seems to be rather an important one, as the temperature may materially prolong or considerably shorten the time generally supposed proper to place a patient in a state of sleep ; and it is on this account that many express surprise at the difference of time employed, at two or more periods, in etherizing the same individual. We quote from the experiment of Dr. Snow :

“ One hundred cubic inches of air saturated with the vapor of ether at a temperature of

44° would contain 27 cubic inches of vapor.

54°	“	34.3	“	“
64°	“	43.3	“	“
74°	“	53.6	“	“
84°	“	66.6	“	“

being doubled by a rise of only thirty degrees ; or, in other words we perceive that if at a temperature of 84°, Fahrenheit, we employ two or two and a half minutes in affecting a person to the state desired at a temperature thirty degrees less we would require from four and a half to six minutes to have the same result.”

Fifth Question.—What are the idiosyncrasies ?

This is a question we are as unable to answer as he who asks. Many of extended experience say there are none. The London Medical Gazette says :—“ The use of ether is inadmissible where there is a tendency to apoplexy, epilepsy, and also in plethoric individuals. Another authority says, “ Persons presenting the slightest signs of

being cataleptic should be viewed as idiocratical." Persons under the influence of liquor should be viewed for the time as idiocratic.

In conversation with Prof. Flagg, he remarked, he knew no idiosyncrasies, except it might be a very high nervous temperament; said to us he had administered to the infant of 36 hours, and to persons in extreme old age; had given it to the robust and weak, the plethoric and the consumptive; used it in all states of pregnancy, except that stage known as the quickening; would also here exhibit it, but would feel called on to exercise every possible discretion; went on to say, that seeming idiosyncrasies might generally be explained by an examination of the operator's ignorance of the agent, being, he believed, in ninety-nine cases out of the hundred, the explanation of difficulties encountered. The Doctor's faith in the safety of the use of ether is so great, that he believed he would not hesitate to use it where there had been or was rupture of the aorta. Our own views on the subject, if possessed of any interest, will be found interspersed with the presentments in our addenda. With Dr. Flagg and with the editor of the British Medical Gazette, I rather incline to wonderment, that instead of the very few, we have not had scores of accidents, when it is taken into consideration the indiscriminate manner in which the practice has been had recourse to, "with bad ether, bad apparatus and bad manipulators;" and with them I further fully agree, "that so very few and such trifling ill effects having occurred in such a state of things, should be convincing proof of the general safety of the practice." Let me then add, in closing the answer to this question, that thorough familiarity with the agent will be found the surest guard against danger.

Sixth Question.—How long may the effects be kept up?

My personal practice is to get through as quickly as possible; if an operation may be performed in fifteen minutes, there seems no occasion to prolong it to an hour. The gentleman last quoted—Dr. Flagg—says he has kept an individual under ethereal influence forty-two hours, and believes that, without injury, one might be kept under its influence as long as he or she would live without starving. In prolonging the state of etherization, the inhaler should be held to the nostrils and mouth each few minutes, as returning consciousness seems to demand. Let the safety of the practice be what it may, we would suggest, to experimenters at least, the propriety of having at such times in the surgery, iced water, in case refrigeration of the head becomes necessary, as well as diffusible and other stimulants and restoratives.

SPONGE GOLD.

BY J. H. M'QUILLEN.

In a recent communication published in the "Dental Recorder," commenting upon the report of the committee appointed by the Pennsylvania Association of Surgeon Dentists, to ascertain the value of sponge gold as a material for filling teeth, the writer has drawn inferences that are unwarrantable in the premises, and labored under misapprehensions, which, if not replied to, would be calculated to place the society and its committee in an invidious position.

It may not, in reply, be inappropriate to allude to the length of time the committee was engaged in its investigations, and also to state facts that were presented to the committee, but which they did not consider it necessary to embody in the report.

The committee was first appointed by the society October 18th, 1853, and consisted originally of eight members. So anxious, however, was the association to arrive at the true estimate of the practical value of sponge gold, and believing that that result could not be better effected than by making the number of practitioners engaged in those efforts as large as practicable, at the next stated meeting of the society its numbers were increased by the addition of three new members.

Meeting after meeting of the association the committee was called upon for its report; but invariably reported progress, its members being anxious to arrive at truth, rather than desirous of making a mere report without a basis of experience extensive enough to warrant an expression of opinion. After an existence of over *two years*, on December 6th, 1855, the committee (having held several meetings which were punctually attended by its various members, and when each one was called on individually to give his experience,) made its report. Whether that report shall be regarded favorably, or unfavorably; whether it shall elevate or degrade the reputation of those who framed it, is not with them the consideration, their aim and desire being that truth should prevail.

That the entire report, or a disconnected sentence from it, should be tortured into an insult, on the part of the committee, towards the gentlemen in the profession with whom they differ, as to the relative merits of sponge gold, is to me a matter of astonishment. Upon this principle, every jury that renders a verdict, let it be ever so just and unbiased on one side or the other of a case, insults the witnesses upon the opposite.

In entering upon the discharge of their duty, the members of the committee were more than favorably impressed with what to them appeared to be the peculiar properties of sponge gold. The facility with which piece upon piece became united with the mass already introduced into the cavity; its assimilated appearance to molten gold; the high finish of which it was susceptible, and the advantages which it was represented to have, and actually appeared to possess, in filling with it teeth too frail to admit of the introduction of gold foil. The first results were most gratifying, so much so, as to induce some members of the committee, possessed of warm and enthusiastic natures, to believe that the desideratum for filling teeth had at length been obtained. Thus, every thing was progressing favorably when the reaction came. Patient after patient, whose teeth had been filled with sponge gold, returned to their respective operators, directing attention to the condition of their fillings. Some of them were crumbling away as if composed of so much mortar. Others were entirely out, and the cavities from which they had become dislodged, presented a blackened appearance, as if coated with a black pigment. In other cases, where the fillings remained intact, there was a blackened zone surrounding the margins. On removing these fillings, the interior of the cavities were found in the condition alluded to above.*

Such, unfortunately, was the experience of the members of the committee, not even excepting the two gentlemen who did not sign the report—one of them having left for the south a short time before the report was drawn up; the other, judging from his statements made before the committee, had been peculiarly unsuccessful, and “out of quite a number of fillings that he had found it necessary to renew, in the course of the preceding year, only *one* was of *gold foil*.” Of this gentleman I can say, with the entire concurrence of those who know him, that he has not, as an operator, a superior in the profession. His reasons for not signing the report are best known to himself, for they were never communicated to the committee.

From all the information that can be obtained in different quarters, this experience does not appear to have been confined to our locality,

* A few weeks ago my attention was called by a gentleman, for whose child I was operating at the time, to a sponge gold filling that had been introduced by an excellent operator many months before. The filling had retained its place, but the surface of the plug was perfectly black, and the darkened zone around the margin was so marked that it had arrested the attention of the patient, and yet, in the same mouth, there were several gold foil fillings that had been introduced at the same period, presenting as clear and bright a surface as when first filled.

but has been that of a large majority of the profession in different parts of the country.

Among other *facts* presented to the committee, was a statement made by Prof. White of an experiment performed with the dynamometer a few days before. A given cavity was first filled with gold foil, and afterwards with sponge gold, and an accurate account kept of the amount of pressure exerted each time. Upon comparing the *aggregate amount* of force applied in the introduction of the respective materials, there was an excess of 4,653 lbs. in *favor* of the *sponge filling*, and yet, on weighing them, it was found that the *foil filling weighed more* than the *sponge filling*. On subjecting them to the endosmotic test, the latter absorbed moisture rapidly, while in the former the absorption was so slight as to be almost imperceptible.

Fillings of sponge gold that had been introduced by some of the best operators in the profession, were exhibited to the committee by the chairman. These fillings presented the appearance of having been perfectly consolidated; but when a drop of water was placed upon their surfaces, the porosity of the mass was so great that it disappeared as rapidly as if it had been brought in contact with a lump of sugar.

Great stress has been laid upon the necessity of using properly constructed instruments, and the failures that operators have met with have been attributed to their having employed instruments that were not adapted to the purpose. With a desire to ascertain what might be the peculiar modifications or original improvements that had been made in this direction, I examined carefully the diagrams that have been going the rounds of the dental journals, and not content with this, have also looked over instrument upon instrument, constructed after approved models, and am prepared to say candidly and honestly that, with the exception of their possessing peculiar shaped handles, I have not been able to discover one instrument which, at the plugging extremity, I have not been familiar with for years; instruments which, in the hands of eminent practitioners of my acquaintance, have been doing "yeoman service" in operative dentistry.

In conclusion, while I do not consider it becoming or necessary to reply to the insinuations thrown out relative to the motives that prompted the committee to draw up the report, of their want of capacity as operators, and other remarks of a like nature, I cannot refrain from expressing a regret that *some* of the advocates for the use of sponge gold should have indulged in an asperity of language little calculated to advance the interests of the profession, or promote har-

mony and good feeling amongst its members. Let such a course once become prevalent, and woe to dental literature; for from that day, thenceforth, (without the disease from its impotence should effect its own cure,) it will be of little service in promoting scientific investigation on the part of dental practitioners.

For the Dental News Letter.

OBITUARY.

Died, January 4, 1856, in Brooklyn, N. Y., Dr. Daniel Harrington, in the 80th year of his age, formerly well known for many years as one of the leading dentists of Philadelphia.

Dr. Harrington was born in the vicinity of Boston, Mass., in the year 1776. He commenced his career in life by serving a faithful apprenticeship to the drug business, acquiring at that time an accurate and general knowledge of drugs and medicines, which he retained and cherished throughout his long life.

Possessing the migratory disposition common to our fellow countrymen of the east, soon after attaining to years of manhood, he proceeded southward in quest of fortune, and settled in the State of Virginia, in Fairfax County, where he continued for some years, engaged in various mercantile pursuits, until the war with Great Britain, when he embarked in the enterprise of manufacturing cotton goods, with flattering prospects. Unfortunately for him, however, the war terminated, commerce resumed her sway, and he, in common with great numbers of manufacturers throughout the country, became involved in utter ruin. Relinquishing every thing he possessed in the world, in the shape of property, his creditors accorded to him an honorable discharge, when, leaving the scene of his misfortunes, he wended his way to the city of Baltimore, with a view to begin life anew, penniless, but with an iron will and an indomitable energy that never faltered. Here, after several attempts, with indifferent success, he conceived the idea of studying *Dentistry*, possessing, as he did, all the prerequisite qualifications for that profession in a very remarkable degree. He at once placed himself under the guidance and instruction of the late eminent Dr. H. H. Hayden, with whom he continued, applying himself to his studies with the most unremitting application for the space of two years; in the meantime attending two courses of lectures in the medical department of the Maryland University. At the termination of his pupilage, after several professional excursions in the interior, for the purpose of acquiring some necessary confidence and experience, he came to Philadelphia in the year 1818, bearing such credentials and letters to influ-

ential persons, as to enable him to attain at once to a high rank in the profession. In a comparatively short space of time, he acquired an extensive and lucrative practice. His rooms were thronged with many of the best families of the city; some of whom continued their professional visits regularly until his retirement, a period of more than thirty years.

On becoming permanently established in his new vocation, his immediate necessities provided for, he entered at once with characteristic vigor upon the task of liquidating the pecuniary claims held against him by his creditors in Virginia. These efforts were continued systematically through a series of years, until every claim against him, amounting in the aggregate to many thousands of dollars, were entirely cancelled to the last dollar. This conduct on the part of Dr. Harrington, although strictly speaking, perhaps, not beyond the requirements of simple justice, and therefore deserving of no special laudation, nevertheless afforded a striking evidence of that rectitude of purpose, and unwavering uprightness which distinguished him through life; and, as an instance of genuine, unrestrained honesty, in this age, it is well worthy of honorable mention in the history of any individual.

As a dental operator, Dr. Harrington, in his best days, had no superior, with the exception, possibly, of his cotemporary, the late Dr. Hudson, in the difficult art of filling teeth. His prompt and unerring judgment in all matters pertaining to the health of the mouth, became proverbial with those who consulted him. He was, moreover, naturally endowed with rare mechanical and inventive talent, and in the adaptation of artificial teeth, according to the old method, using the teeth of the sea horse, human teeth, &c., he was without an equal in the country.

It is much to be regretted that Dr. Harrington, with his known ability and his great experience, did not contribute more liberally to the literature of the profession. The only contribution of his remembered, is the narration of a frightful and extraordinary case of fungus of the inferior maxillary, successfully treated by him in 1843-4, published in the sixth volume of the *Am. Dental Journal*. This case, which the writer had frequent opportunities of seeing, was believed to be, of its kind, without a parallel in the records of surgery. It came under the care of Dr. Harrington, after having been abandoned and pronounced hopeless by the highest surgical authority in the city. In treating this case, in order to have it constantly under his supervision he had the patient, with her attendant, brought to his house, where she remained for the space of four months—the treatment continuin.

throughout one year before the cure was completed. The subject of this remarkable case, though respectable, was of humble circumstances, and to the honor of Dr. Harrington it should be known, that for his arduous services he neither asked nor received a fee or reward of any kind, excepting only the consciousness of having performed a kindly action, with the lasting gratitude of his patient and her family.

In person, Dr. Harrington was rather under the medium stature, but dignified and prepossessing in appearance. He had great earnestness and energy of purpose and action. His manners were exceedingly bland and gentleman like, never failing to secure the respect of those who approached him, and he retained until the last the well-fitting appellation of a gentleman of the old school.

In the last years of his life, his health declining, he removed to Brooklyn, N. Y., having strong domestic ties in that city. Here he remained, until at last, after a short illness, and apparently without a pang or a struggle, he passed quietly away.

The religious views of Dr. Harrington were peculiar, yet he was ever regarded for his sincere piety, and it had long been his habit to contemplate with a feeling of confidence and satisfaction the time when he should be summoned hence.

One who knew him well and who honored him for the excellence of his character, offers this brief and imperfect notice as an humble tribute to his memory.

S. D.

Philadelphia, March, 1856.

We append the action of the Pennsylvania Association of Dental Surgeons on the death of Dr. Harrington.

Prof. J. F. B. Flagg, on behalf of a committee appointed by the Association, concerning the decease of Dr. Harrington, offered the following report :

The committee appointed at the last meeting of the Society, for the purpose of submitting some appropriate action in relation to the death of the late Dr. Harrington, respectfully recommend the adoption of the following resolutions :

Resolved, That the Association has heard with much regret the decease of the late venerable Dr. DANIEL HARRINGTON, who, as one of the pioneers of dentistry in this city, faithfully upheld the honor of the profession for more than thirty years, eminently distinguished alike for his high professional attainments, his unwavering integrity, and for a uniform high-toned, gentlemanly deportment.

Resolved, That we accord to his memory the tribute of our unaf-

fecting homage and respect; that we warmly condole with his surviving family in their bereavement, and tender to them our respectful sympathy.

Resolved, That the President of the Association be requested to furnish the family of the deceased with a copy of these proceedings.

All of which is respectfully submitted.

S. DILLINGHAM,
J. F. B. FLAGG,
DANIEL NEALL.

For the Dental News Letter.

EXPERIENCE IN AMALGAMS.

DEAR NEWS LETTER:—In offering the few following items of experience in amalgams, the actuating motive is to contribute “a mite” in elucidating the utility of a judicious application of amalgam in filling teeth, “where it becomes a necessary substitute for gold.” Having seen numerous cases where amalgam was used in the treatment of dental caries, I have come to this conclusion in regard to its use, viz: that it requires great judgment in the selection of cases treated with it, great particularity in getting pure metals, and great carefulness in executing the operation well. The many cases of failure, and even the instances of evil constitutional effects resulting, as supposed, from the use of this article, that have come under my notice, could have been legitimately referred to a neglect to observe either one or all of the above precautions. Not a few cases of amalgam fillings have come under my notice, which have accomplished all that our art could hope to accomplish. Within the last two months I have seen three individuals, each of whom is wearing amalgam fillings that have stood the test for some twelve years. The operations were performed well, and may it not be because they were so done, that they have done well? The cases alluded to were treated by the late Dr. James Parry, of York, Pennsylvania.

Upon my entrance into the dental profession I deemed it my duty to eschew the use of any and every kind of amalgam for tooth-filling. I thought it my safest plan to follow the *χρυσεος* (golden) light of the great luminaries in the profession who were all against its use; and I found a very powerful inducement to refrain from its use, in the fact that these kind of fillings for teeth, were in this locality very generally reprehended; for it may be truthfully said, the people had been, ever since the days of the Crawcours, nursed with “succeedaneums,”

"crystal cements," "patent pastes," "Parisian fillings," and all that sort of transcen-dental "*hifalutinin*."

A case of evil constitutional results from carelessness in the use of amalgam came under my notice in January, '53. An unmarried lady about twenty-six years of age, intelligent and respectable, had lost her health by degrees; she was affected with sciatica, until she became greatly emaciated and was scarcely able to walk. After ineffectual medical treatment at home, she was taken to the water-cure establishment at New York; but she returned with only some slight improvement. She wore a pivot tooth, which getting out of order, she called on me for the purpose of having it re-set; being aware of the history of her sufferings, I directed her attention to her teeth, as being the probable cause of her ailments. She could not think her teeth had anything to do with her complaints, asking me if they were not all filled? In fact her teeth were *sort o' filled*. In some eight or ten large cavities there were hanging as many *black* porous amalgam stoppings. To my proposal to have these "plugs" removed, the lady entered her protest, and they were left dangling in their nests. After a few months had expired the lady sent for me. I called upon her and found her ready to have her teeth unplugged. I removed all the amalgams and three of the teeth which were found to be worthless. The roots of the teeth extracted were of a dark green color to the very point of the fangs. The several remaining cavities were plugged with gold. The health of the person began to improve, and she is now entirely free from her former ailments. I observed in this case a carelessness, almost amounting to recklessness, in the application of the mercurialized compound.

Acting from a conviction that the failures and evil consequences resulting from amalgam fillings could be properly attributed to their *abuse*, I was induced to test the article in my own practice. I tested it in a case which I treated in September of 1852. Mrs. R. called upon me in that month and had all of her upper teeth extracted, excepting the two second molars, which, as her lower teeth were bad, it was deemed important to preserve as a necessary attachment for a plate. Being badly decayed, I concluded to fill them with an amalgam I had just seen given by Mr. ROBERTSON, Birmingham, in the "*American Journal of Dental Science*," of July, 1852. His formula was, "gold, one part; silver, three parts; and tin, two parts;" all the metals pure, the mercury also pure, and in quantity equal in weight to the powder, to be mixed with the powder at the time of putting the amalgam in the tooth.

The experiment in this case so far has not proved a failure, nor have any bad consequences become apparent from the presence of the compound in the teeth. Now, after the lapse of more than three years, there is no discoloration nor any deterioration in the fillings; and the teeth, although sustaining a heavy plate with ten teeth, are in a good state of preservation.

I have used the amalgam as given in the *News Letter* of October, 1855, by Dr. TOWNSEND, in some twenty fillings. It is too short a time to say much about them; but this much can be said of them: so far the color, texture, and appearance of the fillings are good, and would seem to promise success. I used great care in performing the operations, so that if failure does ensue, it cannot be attributed to what I have been disposed to regard the chief cause of failure, to wit: carelessness. I am watching my cases with interest.

Before closing I would state, that in condensing the filling after the amalgam is packed in the cavity, I cover the filling over with a few folds of a linen napkin, and then press on it with a strong plugger, giving to the instrument a kind of jerking or percussive motion; by this means fine globules of mercury are displaced and caught by the napkin, and may thus be removed from the filling, and the process of solidifying the filling is very much facilitated. F.

Westminster, Md.

P. S.—As curiosities, I have enclosed the canine and bicuspid extracted from the mouth of the young lady mentioned in the above; they have been in my possession long enough.

We thank the writer of the above for the specimens he has been pleased to send us.—ED.

ON THE IMPORTANCE OF REPEATED EXAMINATIONS OF THE TEETH.

TO THE EDITOR OF THE DENTAL NEWS LETTER:—It appears to us, non-professional judges in the matter, that a greater interest in the health and well being of the teeth, might be promoted through some professional inducements to the people to have their teeth frequently examined by the dentist. There is, indeed, as much inducement held out, as professional courtesy can do for it. But people are, in general, averse to troubling their dentist, merely to *inspect* their teeth, particularly if they have to go far to see him, without a certainty that there is need of any operation. And, if the nearest dentist is not *their* den-

tist, they do not like to ask him for an opinion on a matter in which *he* is not to be the operator. We should think it would be well for dentists to make it a part of their *stated* avocation, to *examine* teeth, apart from the question, who is the dentist of the consulting parties, and to make a little charge for so doing. If such was to become a more common practice, people need have no hesitation about consulting, for such a purpose, simply, any neighboring dentist; and the latter would never consider himself as being for that sole reason the dentist of these parties; he could not feel slighted, if not asked to perform the operation which he may have pronounced to be necessary or advisable. Moreover, dentists without practice might thus be very useful, and earn something for being so; while, at the same time, itinerant dentists of doubtful reputation, would have to be careful what opinions they give to those consulting them, as the opinions would be liable to exposure; and they would also be less exposed to the temptation of giving wrong advice, since they would be entitled to the fee in any case, for a mere inspection of the teeth.

ONE WHO VALUES A GOOD SET OF TEETH.

The above intelligent communication expresses the view that all well-informed dentists ought to take of their duties to the public. Doubtless there are many dentists as well as patients throughout this country and Europe, who can bear testimony to the fact that we have recommended our patients when going away from us, to consult in due time, the nearest dentist in order to detect in time the condition of their teeth, rather than wait for their return to their family dentist. We can also inform our correspondent that what he suggests has been the practice of a very large number of the properly informed dentists throughout the United States for many years. But we do not know of there even having been a charge made in a single instance for such services; we have been offered a fee for such services on many occasions by liberal persons, but we have always under such circumstances remarked that we did it as a civility to their family dentist; believing that he, when called upon by any of our patients, would do the same for us. If persons who are far away from their family dentist, would call upon the nearest one, introduce themselves as Dr. So and So's patient, and merely wish their teeth examined as a precaution, our word for it, there is no one we ever met with in our profession that would not be willing to give a few minutes of his time cheerfully to inspect the mouth of the applicant without charge.

J. D. W.

For the Dental News Letter

OLD PATENT FORMULA FOR TOOTH-ACHE DROPS.

DR. J. D. WHITE—*Dear Sir* :—In compliance with your request, and my promise, made some time since, I herewith send you the formula for Dr. T. White's tooth-ache drops, for which he received a patent before the conflagration of the Patent Office at Washington, and the specifications were not replaced.

R. Put four ounces best gum opium into a mortar and triturate in hot water until it assumes the consistence of thick cream, leave it stand twelve hours, then put it into a bottle and add a pint of alcohol; digest for seven days. Then dissolve four ounces gum camphor in a pint of alcohol, after which mix two fluid ounces of each of the above tinctures (shaking them up well before mixing) and oil peppermint two fluid ounces, well together; then add gradually six drachms nitrous acid, then let it stand six days in a cool place and shake it up every day and leave the stopple slightly fast; at the end of six days add to every pound of the foregoing mixture one ounce oil of sassafras, and half an ounce oil of tar.

T. White said that, "If the tooth had not ulcerated at the fang, and care be taken to bring the liquid in contact with the part effected, a permanent cure may be expected."

DIRECTION.—"Always clear the cavity of foreign substances, and apply the medicine on a little patent lint, and leave it in forty-eight hours; the pain of tooth ache will generally be relieved in from five to twenty minutes."

This was the second dental patent I knew any thing of, and it has been of great service in my hands; but I have not used it so much of latter years as formerly, having substituted chloroform and pyrethrum as a palliative, in equal parts, and chloride of zinc or the arsenious paste as a caustic.

If you think the above worth the space it would occupy in the News Letter, it is at your service. Yours, &c., E. P.

The above formula from Prof. Parry, is a very interesting one for the purpose it was intended, and very fully illustrates the enormous compounds that were resorted to in days agone, to alleviate the ills of human flesh.

J. D. W.

For the Dental News Letter.

ON THE WORKING OF STEEL.

BY W. S. HOW, D. D. S.

(Read before the Alumni of the Philadelphia College of Dental Surgery, at their second Anniversary, held Feb. 29, 1856.)

GENTLEMEN—FELLOW ALUMNI:—*The working of steel, as a branch of dental science*, is the subject I have chosen to present for your consideration. I would gladly omit the *implied* censure contained in the above title, for those who have drawn the boundary lines of our art *inside* the territory of undervalued steel, did not justice demand that the claims of this important metal be no longer overlooked by those who pay such eager homage to the court of the “noble metals.”

There is need of a revolution in the kingdom of science, that shall democratise the estimation in which its subjects are held, and give each the position that its intrinsic importance demands. And he who enters her domain should take off the veil with which ignorance has covered his eyes, and throw away the crutches *custom* and *prejudice*—or else, making stilts of the crutches, go stumbling through the kingdom, with eyes which see only colored and elevated objects. Universal science is just beginning to realize its manifest destiny—the kingdom will be a republic. The different provinces are being brought together, their mutual relations observed and acknowledged. It would be interesting and instructive to review the progress of these principalities towards the constitutional monarchy which now prevails, but these things are apparent to every observer, and their consideration at this time might abstract our attention from the subject immediately before us; and that is *steel*—with the character and general properties of which you are doubtless acquainted. But, if such were not the case, you, as college educated dentists, could be scarcely supposed aware of their existence. In “Harris’ Principles and Practice of Dental Surgery,” a work which, in the varied and perplexing duties of dental practice, is such an admirable guide, the reader will find out two lines aimed at the subject under consideration, and these, for their brevity, I will quote, “He [the dentist] should also be supplied with the means, and, in case of emergency, be able to make them [extractors] himself.” Nor is the “Dictionary of Dental Science,” by the same author, much more explicit; in it, steel is very correctly described; “iron combined with carbon.”

I very much fear that I shall be deemed irreverent, in thus reviewing works which are universally received as standard authority in matters pertaining to dental surgery—but the consciousness that

nothing of the kind is intended, serves to console me, in view of the possible contingency.

As fallibility is generally understood to pervade the productions of most men, the proposition that in works of the magnitude of those referred to, there *may* have been *one* thing neglected, is not so astonishing as at first it might appear.

But, in a book professedly metallurgical, like "Chemistry and Metallurgy as applied to the study and practice of Dental Surgery," such omission is hardly excusable. Indeed, I do not know if the word steel occurs in that portion of the work devoted to the exposition of metallurgy for the dentist. Here is an important, absolutely essential metal altogether ignored!

I will not stay to comment upon the anti-mechanical prejudice so prevalent among members of our profession, to which, perhaps, is owing the exclusion of steel from "chemistry and metallurgy," as well as the almost universal neglect with which the metal is treated by dentists. The theme is too inviting—I might dwell too long upon it.

"But steel is so abundant; such common sort of people work it, and the art is so easy to acquire, that it is not worth the attention of a man of science," says some on stilts, and the matter is settled, settled to the bottom. Nevertheless, I hope that it will come up—is coming up; and it is with this view that I am presenting the subject for your consideration, believing, that should your attention but be directed to it, the metal will soon obtain the prominence which it merits. I will not enlarge upon the unapproachable usefulness and extraordinary properties of steel; these need only be briefly described to become instantly recognized. The magical property of metamorphosis from leaden softness to glassy hardness, and the wonderful quality of regular and controllable graduation, in the return to its original condition, cannot be over-appreciated.

There are several kinds of steel, and the quality of each varies considerably. Blistered steel, shear steel and cast steel, are the names by which the principal varieties are known. Cast steel is best suited to the requirements of the dentist, and is readily obtained; therefore when the word steel occurs, I will be understood to mean cast steel.

In selecting good from bad steel, practical instruction or considerable observant experience is necessary, to enable one to judge correctly as to the quality of the article, as its behavior and appearance can be but vaguely described.

Steel is readily distinguished from iron, by the crystalline surface which is exposed by fracture. Iron, on the contrary, exhibits a fibro

structure when similarly treated. Good cast steel, when recently broken, shows an even, crystalline, silver-gray surface, which does not too much reflect the light but is soft rather than brilliant; its strength is tested by knocking off a corner, or breaking a thin edge with a good hammer.

In working steel, it may be heated in a forge-fire of charcoal, coke, any thing but anthracite, or coal impregnated with sulphur, which is highly injurious. The ordinary blow-pipe flame is sufficient for general purposes, the principal objection is its oxidating power, and too intense heat, which requires great care to prevent over-heating the steel. With coal fires, caution is necessary to avoid burning the metal, and the coals should be kept in close contact with the steel, to protect it from oxidation.

In forging, heat the steel to a red color, no more; never exceeding redness, except in the process of welding, and even then it should be avoided. It may be hammered now until nearly cool without injury; on the contrary, with benefit to its texture. Small wires, or instruments with ends the size of ordinary knitting needles, may be flattened, or bent at right angles with the shafts, even when cold, if they have been properly annealed; but they must be thoroughly hammered over the whole surface, and not re-bent, without again annealing them.

Endeavor to forge to nearly the exact size required, so that little shall be left for the file but to remove the scale and even the surface, for the reason that the superficial is the best portion of the steel, if well hammered; an illustration of which is seen in the manufacture of saws, watch-springs, &c. These articles, after having been tempered, are ground and polished, which operation leaves them nearly non-elastic. A careful hammering, however, restores the lost property, and, as the workmen say, "puts the life into them." In this manner filling instruments may be tempered without heating them in the fire; and the shanks of small instruments that are by chance left too soft, can be readily made to possess the required elasticity without retempering. Even the cutting edges of instruments are improved by skillful hammering.

It is not designed to give special directions for the formation of particular instruments, since this may well be left to the judgment of the workman, but as the manner of making files is not generally known, I add a description of the process, which is easily acquired, and in case of emergency will be found very useful.

Files are cut with chisel-shaped tools, struck by the hammer. The

chisel is made wholly of steel, and drawn to the thickness, at the edge, of the intended size of the grooves to be cut; this is not absolutely necessary, as a skillful workman will make files of different grades with the same tool. After tempering, the sides are ground to perfect planes, and the tool left wedge-shaped. The edge is slightly beveled, making it as nearly straight as possible, which requires great care, if intended for flat files. Take, now, a piece of well annealed steel, of the form desired, draw-file the surface with an old fine-cut file, and, if to be cut on one side only, fasten with wire upon the anvil; if to be cut on both sides, fix a piece of lead between it and the anvil. Upon placing the chisel in a nearly vertical position on the plate of steel, and striking a light blow with the hammer, it will be found that the chisel has indented the metal, throwing up in front a slight burr; raise the tool, carry it forward, rest it upon the plane, and slide it backward until it catches against the burr; if in the same position as before, strike again, and repeat thus to the end. It will be seen that the quality of the file is graduated by the thickness, bevel and direction of the chisel, together with the weight of the blow. Experiment must teach the proper combination of these circumstances for the production of the required instrument. There need only be added a caution, not to bevel the tool too much, and to make it thin when the file is desired to be fine.

Files are bent, after being cut, by means of wooden or leaden mallets, on anvils of the same material.

With this digression, I come now to speak of hardening and tempering. The fact that steel is transformed from a soft to an exceedingly hard state, by the simple process of heating and suddenly cooling it, is familiar to almost every man, but the proper manner of conducting this simple operation is not so generally understood, if one may judge by the success of many who undertake its performance. It is a common error to suppose that, since the metal is made hard by the rapid change from a high to a low temperature, that the greater the difference, the harder becomes the steel, so they heat it to a *white heat*, and plunge it into a very cold bath.

Such amateurs are not generally very close observers, and are not therefore very likely to learn that the steel is thus injured, and its capability for receiving a fine cutting edge totally destroyed. The thing is so *simple*, that any body can do it, and, therefore, any body having once done it, *knows all about it*; so "wisdom can no further go!" Seriously, it is a great mistake to proceed thus; the steel is burned, decarbonized, and its restoration difficult, if not impossible.

without again passing through the process of cementation. There is a point beyond which steel may not be heated without injury, and in cast steel this point is several degrees lower than in the other varieties.

Too much care cannot be taken to avoid this extreme, either when forging or hardening. For a cooling medium, water at ordinary temperature is best and most convenient. Various mixtures are used in the manufacture of different articles. Oil, tallow and rosin, alone or in combination, are used for articles which require a low temper; brine, mercury, acidulated and ice-water give a slightly greater degree of hardness than plain water, but for ordinary purposes water fulfills every necessary indication. The instrument to be hardened should be heated *slowly* and *uniformly*, to a *cherry-red* color, and then plunged instantly into the water; if a large object, plunge vertically, and move it about in the vessel.

Have the water close at hand, in order that no heat shall be lost during the transfer. The scale should always be removed before heating for hardening, and in the case of serrated instruments like files, the small points must be protected from oxidation, by previously coating them with yeast, thick paste, borax, or any thing which will prevent exposure to the air. Sharp angles in large objects render them liable to fracture in hardening, but in very small instruments this is not of much consequence. After hardening, brighten the surface, preparatory to drawing the temper; to do this, many ways are proposed. A simple method for small objects, is to reduce the size of the lamp-flame, by pressing in the wick, or otherwise, and hold the instrument over the flame, beginning at the base of the shank, and revolving it slowly, until the desired temper is obtained. Holding between hot pincers, resting on a bar of hot iron, plunging in a bath of fusible metal, heated to the proper temperature, and various modes of procedure are open to choice. The object in all cases being to obtain such control over the process as shall enable the workman to fix the temper at any desired point. The steel should be rubbed quite bright, if it has not been protected during hardening, before drawing the temper, in order that the changes produced may be readily and with certainty observed; and these are marked by variations in its color, occasioned by oxidation of the surface, and the sequence is as follows: "Straw color, yellow, dark-yellow, copper color, purple, blue, whitish-blue."*

* Elliot on Operative and Mechanical Dentistry.

A little observant experience will determine the color which indicates the degree of hardness desired, and immediately this is obtained, cool as in hardening. If the point by accident arrives at the right temper before the shank, grasp between a pair of pliers, or thrust it into a piece of wood or charcoal, and continue the application of heat to the shaft. Should it chance that the instrument is made too soft, or even annealed, hammer it thoroughly over the whole surface, and harden as before. If in hardening, the steel has not been heated to a sufficient degree, it will be taken from the water soft as in the first place. No apparent injury results from the failure. Many workmen thus anneal their steel, but it is best to hammer it well again before reheating it. Always try with a file, to learn if it be hard before drawing the temper. In all cases test the instrument severely, prior to using in or about the mouth, using more pressure than will be demanded for the purpose for which it was constructed. The hardness or softness of the cutting edge may be nearly judged of by an old file. It should have been remarked that the cutting edges of tools should be left a little thicker than they are designed to be when finished, to prevent their being burned when heating the thicker portions. Grinding, polishing and burnishing are the finishing steps in the process of making instruments of steel.

I did not intend, gentlemen, to occupy more of your time than should be necessary to draw your attention to the subject presented, and fix in your minds an idea of its importance and usefulness. If I have succeeded in this, my object is gained, and the benefits to be derived will reward you for the honor you have done me in requesting me to address you upon this the second anniversary of the Associated Alumni of the Philadelphia College of Dental Surgery.

For the Dental News Letter.

IRREGULARITIES OF THE TEETH.

BY J. D. WHITE.

This interesting subject does not seem to receive the attention it deserves at the hands of the dental practitioner; we have long wished to say more about it than we have done, but a press of other matter has from time to time kept us out of the journal. The early loss of the first teeth by disease, or their extraction by anxious parents or ignorant dentists—ignorant of the order of development—of the apparent irregularity which incomplete development presents to the eye of ignorance, before the young jaw has assumed its proper and destined

development, has made this a most important and interesting part of the duties of the dentist. It is generally believed that the mouth should at all times during the eruption of the second set of teeth, present to the eye a desired regularity ; but this is not so, and hence the premature extraction of the first teeth. Nine-tenths of the cases of irregularities that come under our observation result from a premature loss of some of the deciduous teeth. Some dentists, of twenty years' practice, tell us that they never have attempted the regulation of a single case of irregularity, in the whole course of their practice, and simply because they can not see in advance a certainty of success, or that they will be paid for the trouble it will require to accomplish the desired result. The prognosis depends upon their want of knowledge as to the means necessary to accomplish the object. If those dentists who cannot see how they are to be paid for their services, were to give proper attention to a few cases without any hope of direct remuneration, they would be paid in information much more than in the services rendered the patient. We are frequently told by dentists that patients do not fully appreciate the value of their services in these cases, after trying two or three, and hence they abandon them entirely. This is doubtless true, if they tell the story, but we frequently hear of dentists charging from fifty to five hundred dollars for regulating a set of teeth, and the parties make complaint of the charge, and they therefore do not wish to be bothered with them, as they do not pay. In cases of this kind, that we know of personally, the great amount of trouble attending the treatment, and the failures, have depended upon the ignorance and bungling of the dentists ; it would have been more just if they had paid the patients for submitting to the annoyance, if they had learned by the experience, than the patient to have paid them. A number of dentists have applied to us within a short time, for information on the subject of irregularity. We have also had casts of cases sent us, from dentists from a distance, to have our opinion as to the best way to pursue in regulating the different cases presented.

We will here state, that we are perfectly willing to receive and mark any cases sent to us, and give such information in our power, to enable those with less experience, and to encourage them, in taking charge of such cases.

The following case is a simple, but interesting one, and, if well understood, will furnish a key to many cases. The patient, a young lady nearly twenty-two years of age.

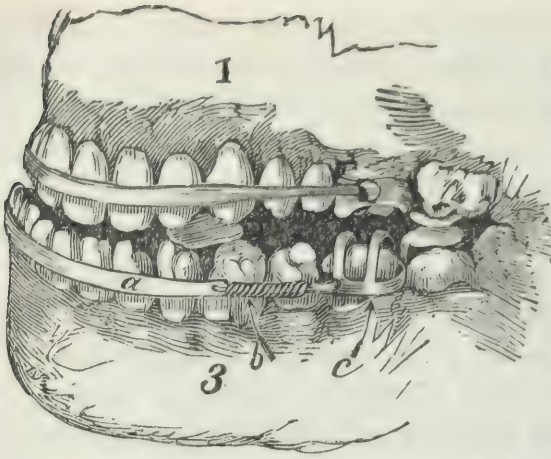


Fig. 1, is the case viewed from the left side; the first superior bicuspid, canine, lateral incisor and both front incisors falling inside of the lower teeth, which gives a lateral and forward projection to the chin, and a peculiar warp to the face.

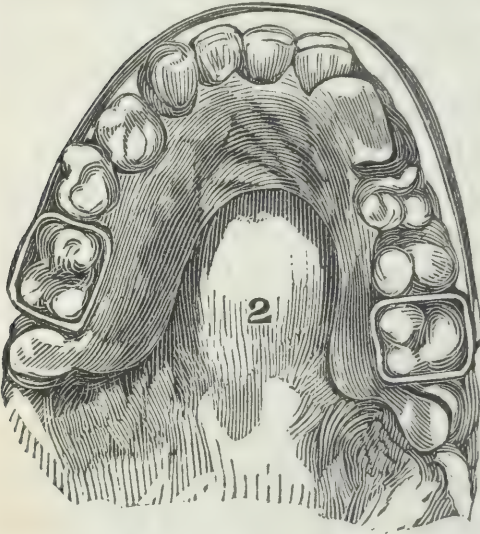
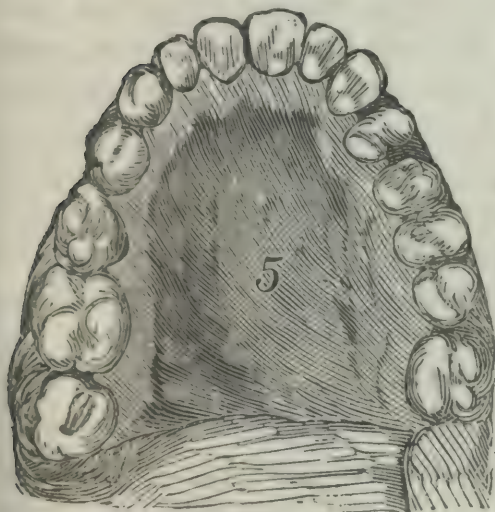
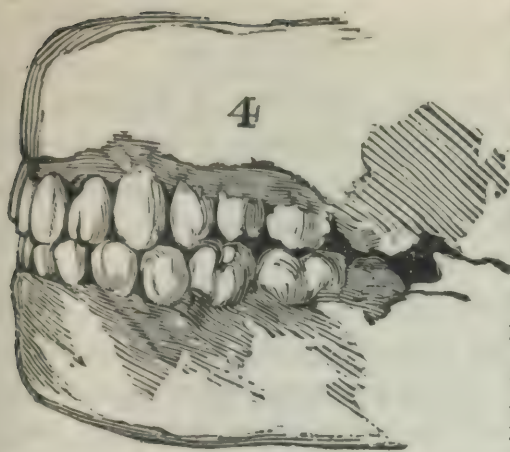


Fig. 2, is the apparatus for the upper jaw; it consists of a plate swedged up to fit the roof of the mouth, and extending forwards against the back part of the front teeth, in the same manner as if it were intended to insert teeth upon. It has attached to it, on the left side, an inclined plane, opposite the superior canine and lateral incisor, extending outwards and downwards, to grasp the inferior canine and bicuspid. This answers the double purpose of helping to throw the

upper teeth out and the lower ones in, and the lower jaw to the right. It also keeps the jaws apart sufficiently to allow of the teeth, when they are moved, of passing each other. The bands are so constructed as to grasp over the crowns of the molar teeth in such a way as not to require filing. To the buccal sides of these bands are soldered a bar, extending from side to side, and as far away from the front teeth as it is desired for them to be brought forward. To this bar, and around the necks of the teeth, ligatures are well fastened, either of India-rubber or flaxen thread. This apparatus must be changed every other day, and the teeth well brushed to remove all foreign substances. There are, also, attached to this plate, caps for the back teeth, to prevent them from falling towards the opposite jaw, while the apparatus is worn. This fixture was worn about one week before any thing was done to the lower jaw, when a simple bar and caps were placed upon it, as seen in *Fig. 3*. *a* is the bar in front of the teeth;



b a spiral spring at one extremity, to give elasticity to the bar when placed over the front teeth; *c*, the bands over the second molar teeth, with caps extending over the wisdom teeth in the same manner as the upper caps, to prevent them from rising from their sockets. This spiral spring has within it a piece of wire to prevent it from bending laterally, but it does not prevent the extensibility of the spring.

Fig. 4, represents the operation completed, which occupied about five weeks; at this time the apparatus was removed, and a plate (*Fig. 5*) swedged up to fit the roof of the mouth, and touch the necks of all the front teeth, so as to prevent them from falling back to their former places; this may be worn for a long time, together

with lower spring, to insure success. The age of the patient at the time this operation was commenced rendered it doubtful as to its success, but the rapid progress of the treatment shows that that was no disadvantage.

For the Dental News Letter.

MEETING OF THE ALUMNI OF THE PHILADELPHIA DENTAL COLLEGE.

The alumni of the Philadelphia College of Dental Surgery met, pursuant to adjournment, on February 29th, 1856, at the College Building, Philadelphia, at which meeting three interesting essays were read from Drs. How, Hayhurst and Jack, besides the transaction of the usual business and discussions. A committee was appointed to prepare essays to be read at the next meeting, which will be held on the afternoon of the Annual Commencement of the Philadelphia College of Dental Surgery.

WM. CALVERT, President.

J. HAYHURST, Secretary.

H.

For the Dental News Letter.

REPRODUCTION OF THE ENAMEL, &c.

MESSRS. EDITORS:—Throughout my researches in the annals of medicine, and they have been tolerably extensive, I have met with nothing upon record that resembles the following curious phenomena, and as they appear to me, to be worthy of an investigation, I submit them, without comment, to the dental faculty.

Case 1st.—*Philadelphia, March 12th, 1855.*—Miss S. S—— a lady of my acquaintance, about twenty years of age, of a sanguine temperament, when quite young, having used a great quantity of medicine, the effect of which destroyed the entire enamel of all her permanent teeth, but did not affect the ivory. Strange to say, that for several years past, the enamel is again being gradually deposited over them; some being now entirely coated over, while others are but half or two-thirds. It is beautiful, without a blemish, white and of an unusual thickness.

Case 2d.—*Woodstown, N. J.*—Miss H. L. R—— consulted me July 20th, 1855; age about seventeen years; of a healthy appearance, she presented the anomaly of having no superior lateral incisors. On inquiry, I learned that her grand mother previous to her marriage lost both hers, and neither her father or herself have had them.

Yours, with sincere respect,

WM. M. MORGAN.

The above paper was mislaid or it would have appeared in the Jan. No. of News Letter. We have never seen a case where the enamel has been reproduced, when once lost. But we do not suppose that we have seen everything that has occurred to the dental organs. Perhaps some of our readers have met with the same phenomena, but the absence of the lateral incisors we have frequently met with. It is a family feature in many families that we know; how the anomaly began, we know not, but suppose it depends upon the same peculiarity of organization that make the many differences characterizing different families.

J. D. W.

For the Dental News Letter.

SOFT FOOD.

We believe that one of the great causes of the deterioration of the teeth of the present age is the use of soft food. Every article of diet is reduced by cooking to a pulp, and is merely mumbled in the mouth to form it into a proper bolus for deglutition, or is actually swallowed as a liquid. The mastication of solid food is essential to the preservation of the teeth. We frequently see the teeth of children coated

over with a kind of white paste, and the enamel softening as if they were being macerated in a dilute acid, and in a short time fall a prey to decay and are prematurely lost. From the appearance of the teeth they had bolted their food and not masticated it. The dairy men know that if milch cows are fed upon slop, that their teeth will blacken, loosen and finally fall out, or will be disabled of feeding on hay or grass, and consequently they will not purchase them with a view to keeping them in that way. We frequently see all the teeth in this condition, but two or three, which have done the chewing, and these present a polished and healthful appearance, while all the rest are going to destruction.

Several years ago a gentleman called upon us to have some operations done on his teeth, who had naturally a good set. We told him that if he did not endeavor to use both sides of the mouth in chewing he would loose half his teeth. He was startled to learn that we could tell which side of his mouth was most used. One side was clean and healthy, while the other was coated with tartar, gums spongy, and the teeth decaying. He said that this reminded him, and explained a remark which he heard the late Stephen Girard, of our city, make. Girard said "that his teeth were like some persons, if he gave them nothing to do they got into *loose ways*, but if he gave them plenty to do they got tight again." While at home, his teeth became injured by eating soft food, but when he went to sea and used harder food, they became healthy. Is there not a volume of truth lying here.

J. D. W.

ALUMINIUM.

BY J. R. M'CURDY.

This comparatively new metal—the metallic basis of alumina—has been attracting much attention in the scientific world, and, as is generally the case with recent discoveries, large expectations have been formed of the many uses to which it may be put, and the wonderful results it may bring about in the arts.

Presuming some brief account of it would prove interesting, we have looked over much that has been published on the subject, and now lay before our readers numerous condensed extracts from foreign and home journals, showing when and by whom discovered and perfected, its properties, &c.

We are, however, warranted in taking some of these statements with a grain of allowance, as they appear a little extravagant in some of the claims put forth, and which will be readily recognized.

[From the Annual of Scientific Discovery for 1855.]

“Aluminium, says M. Deville, in a recent report to the French Academy, of which the most common clays contain about 25 per cent. of their weight, is eminently suited to become a commonly used metal. I have not hitherto published the methods which I have used to produce it, for they required to be confirmed by additional experiments. I will now, however, state, that all I announced at first has been confirmed, since I have been able to procure larger quantities of aluminium. * * * * In fact, this substance is so completely inoxidizable, that it resists the action of the air in a muffle heated to the temperature at which gold is assayed; lead burns, and litharge melts at a heat which takes no effect upon aluminium. * * * * Aluminium conducts electricity eight times better than iron, consequently as well as, if not better than, silver. * * * *

“Aluminium, like iron, can not be alloyed with mercury, and scarcely takes the least trace of lead. It gives, with copper, light, very hard and very white alloys, even where there is 25 per cent. of copper in the mixture. It is characterized by forming with charcoal, and especially with silicium, a gray granular and brittle casting, crystallizable with the greatest facility. When broken, it forms angles, which appear to be right angles. When this mixture is attacked by hydrochloric acid, the odor of the hydrogen indicates the presence of charcoal.”

[From the Annual of Scientific Discovery for 1856.]

“The price of aluminium a short time since, in France, was about the rate of gold. M. Dumas, in a recent communication to the Academy, stated, that owing to recent discoveries, reducing the expense of extracting it, the cost of production was now about one hundred times less; and M. Balard, another member, stated that there was little doubt that the effect of competition in its manufacture, together with the advantage of throwing it open to the industrial resources of the world, would be to reduce the price as low as five francs the kilogram, or about forty cents a pound. * * * * M. Wohler having contested the priority of the extraction of the metal aluminium from alumina, with M. Deville, the latter has replied in a paper before the French Academy, urging that the metal he has obtained by sodium and by using new apparatus, differs essentially in the distinctness of its reactions from the aluminium of M. Wohler. This difference is due to impurities which cannot possibly be removed when the operation is made in platina vases, &c. * * * *

“It will be remarked, undoubtedly, that in the details above there is no mention of the very reduced price which Messrs. Dumas and Balard have promised. It appears that, for the present at least, this price is still very high, and very far from being what would be considered the net cost, as stated by us conditionally of the agents necessary to extract the aluminium. Moreover, M. Dumas has not explained himself formally concerning the price even of the new metal, and he has anticipated too much in this respect. * * * * As aluminium is nine times lighter than platina, and presents also a surface nine times more extended than the latter metal, with an equal

thickness, its substitution for platina should be productive of real advantages, above all, now that its price has become very accessible. The aluminium here spoken of is very difficult to forge. In order to roll it, it has been found necessary to anneal it at each pass. By depositing copper electro-chemically on a plate of aluminium, they have succeeded, by the aid of rollers, in reducing it to very thin plates."

[From Journal of Franklin Institute, January, 1856.]

* * * * * "It is at present premature to pronounce an opinion as to the future value of this metal in the arts; but as nothing can give a greater impetus to manufacturing industry in its present advanced state than the introduction and use of new natural products, we propose to lay before our readers the gleanings of the foreign journals, which treat of the properties of aluminium, and the mode of obtaining it from its natural combinations.

"This metal, which, owing to the recent researches of M. St. Claire Deville, is now exciting so much attention, was discovered, or rather, its existence was inferred, by Sir H. Davey; and the correctness of his inference was confirmed by M. Wohler, who obtained aluminium in a pulverulent state by treating its chloride with potassium. By modifying M. Wohler's process, says M. St. Claire Deville, the decomposition of the chloride may be regulated in such manner as to produce a degree of incandescence that will cause the particles of the metal to agglomerate and take the form of globules. On heating a mass, composed of the metal and chloride of sodium (which is to be employed by preference,) in a porcelain crucible, to a lively red heat, the excess of chloride of aluminium will be disengaged, and a saline mass, with acid re-action, will remain, in which will be found globules of perfectly pure aluminium. This metal is as white as silver, and eminently malleable and ductile. Nevertheless, on working it, it is found to offer greater resistance than silver; and it is therefore supposed to approach nearer to iron in tenacity. It increases in hardness by being worked, but will regain its former condition by the annealing process. The melting point of aluminium approaches that of silver: its density is 2.56; it may be melted and run off in the open air without undergoing any perceptible oxidation; and it is a very good conductor of heat.

"Aluminium is not affected by exposure to either dry or damp air; neither does it tarnish; but it remains perfectly bright, where freshly cut zinc and tin lose their lustre. It is not affected by the action of sulphuretted hydrogen, nor by hot or cold water. Nitric acid, either weak or concentrated, and weak sulphuric acid, when employed in the cold state, do not act upon it. Its true solvent is hydrochloric acid, from which it disengages the hydrogen, and sesquichloride of aluminium is formed. When heated to redness in hydrochloric acid, in the gaseous state, the product is a dry and volatile sesquichloride of aluminium.

"It will be easily understood that a metal which is as white and unchangeable as silver, which is not tarnished by exposure to the air, and which is fusible, malleable, ductile and tenacious, and possesses the singular property of being lighter than glass, would be exceedingly useful if it were possible to obtain it easily. Besides, consider-

ing that this metal exists in nature in large quantities, and that its ore is clay, it is much to be desired that the means should be found for bringing it into common use. The investigations of M. St. Claire Deville have led him to hope that this might be the case, as the chloride of aluminium is decomposed with remarkable facility at a high temperature by the common metals; and a re-action of this nature, which he is striving, with the encouragement of the French Academy of Arts, to realize on a larger scale than a mere laboratory experiment, will solve the question in a practical point of view."

The writer then gives several methods of obtaining this metal, and remarks at the close of his paper:

"These processes, it will be understood, are suited rather for the laboratory than for the requirements of the arts; but we hope ere long to be able to present our readers with a more practicable plan for obtaining an abundant supply of the metal."—*Newton's London Journal of Arts and Sciences*, Sept., 1855.

From the same publication we copy the following, on the history and properties of aluminium.*

"A fine bar of aluminium is now on view at the Polytechnic Institution, where Mr. Pepper explains its history and properties. This metal was discovered by Sir H. Davey in 1808. Oersted endeavored to exhibit the metal in a detached form, by the employment of chloride of aluminium, and about thirty years ago Wohler succeeded in obtaining a few grains of it. It has been reserved, however, for M. St. Claire Deville to produce (in the private laboratory of the Emperor of France) a whole bar of aluminium, which has been presented to Mr. Pepper by the Emperor. After giving a brief history of the metal, the non-success of experiments for obtaining it, and the 'sodium' and 'voltaic battery' processes, Mr. Pepper describes its nature and properties. 'Aluminium' is classed by M. Deville as an 'unalterable' metal, intermediate between the precious and the more common metals. Mr. Fownes includes it in the same category as glucinum, yttrium, cerium, lanthanum, didymium, zirconium and thorium—all of them 'metals of the earth proper.' The specific gravity of aluminium is 2.56 (or 2.60 according to Mr. Fownes, water being taken as unity.) This is about one-eighth of the gravity of platinum, and one-third that of iron, platinum being 20.98; gold, 19.26; mercury, 13.57; silver, 10.47; iron, 7.79; zinc, 6.5; and titanium, (next above aluminium,) 5.30. The equivalent of aluminium is 13.69. The metal is beautifully white, with a slight bluish tinge, and reflects light clearly. It is malleable and ductile, almost without limit; when passed through the fingers it exhales a slight odor of iron. It is a perfect conductor of electricity—the best known among the metals—and is negative to zinc. It melts at a rather higher temperature than zinc, and is excessively fusible. The chemical properties of aluminium are invaluable. It resists oxygen, water has no action upon it at any temperature, and even sulphuretted hydrogen—that great defacer of the brightness of metals in large towns—exercises no destruc-

* From the Lond. Athenæum, August, 1855.

tive influence upon it. It is now, moreover, ascertained that the metal does not decompose water. Thus aluminium bids fair to become one of the most useful and serviceable of the metals, and from it have already been manufactured some medals and watch-wheels of exquisite workmanship."

In the same Journal, for March, we find the following, on the "*Preparation of Aluminium.*"*

"M. Deville presented a new memoir on the preparation of aluminium; the only important novelty in which, appears to be the fact that alkaline fluorides (such as fluor spar) appear to be the best fluxes for the metal. They are now making aluminium from kryolite, a double fluoride of aluminium and sodium, which occurs somewhat abundantly in Greenland."

We have thus given, in a condensed form, much that has been published on the subject, with a view of laying before our readers such facts as may assist them in determining what advantages, if any, this metal may possess over those now generally used in the dental profession. We learn by the authorities quoted above, that muriatic acid is a solvent of aluminium, but that nitric and sulphuric acids do not affect it. Our own experiments have proven to us the rapid action which muriatic acid has upon it, that it requires as great a heat to melt it as silver, that it works toughly, yet very liable to scale and crack at the edges in rolling, and we should suppose it would be better to anneal it repeatedly, when forging or rolling. One peculiarity we observed in melting it was, that it would not pour or flow like other metals, but required very considerable effort to force it out of the crucible, even when much above the melting point. The ordinary fluxes used in melting the precious metals, such as borax, pearlash, saleratus, etc., we found entirely useless, not facilitating, in the least, the flow of the metal. From its appearance in the melted state, the impression was forced upon us that *it lacked sufficient gravity to induce it to flow or pour*; and this will not appear so strange, when we consider that its specific gravity is only $2\frac{1}{2}$, while silver is about $10\frac{1}{2}$. We were shown some foil made of it, the leaves of which contained innumerable little scales, which fell off in the slightest agitation; and in beating it into leaf, we were told that where a crack in the leaf occurred, the edges could not be made to connect, but were forced over each other; no adhesion could be induced, as with gold. On experiment, it was found impossible to fill a tooth with it, in consequence of its harshness or want of ductility, the pressure breaking it into innumerable scales or particles.

* Notes from the Academy of Science, at Paris.

Dr. J. W. Evans, of Paris, in a letter to our colleague, says :—"I have been testing this new metal, with a view of determining in what manner it might be useful to our profession. I find that it does not oxydize, that it bears stamping and adapting even better than pure platinum and about the stiffness of gold at 18 K., but the great advantage is its lightness, and for atmospheric pressure plates it is perfect. These are some of its good qualities. Its disadvantages are difficulty in soldering ; gold solder is eaten up when brought in contact with it ; however, it can be soldered." (Unfortunately, he does not say with what.) "I shall continue my experiments, and let you have the result. Some pieces can be cast entirely of it and even then are not heavier than bone."

We trust he will be able to give us something more definite in his next.

What effect the secretions of the mouth will have upon it, is yet to be determined, and we hope some experiments will be made in this direction by gentlemen in the profession who will make public the result.

As will have been seen, there are several things to be determined before it can be employed in mechanical dentistry as a substitute for silver :

First.—A more satisfactory manner of working it. This seems to be in the way of accomplishment, judging by the suggestions contained in the last extract.

Second.—The discovery of a suitable substance or alloy as a solder. This may be arrived at, as the metal becomes better known and enters into manufactures.

Third.—To determine what action the secretions of the mouth will have upon it. This is a point which time only can determine.

Fourth.—A great reduction in its cost. (The price now, in Paris, is from nine to ten dollars per ounce.) This will no doubt take place, but not probably to the extent as stated by Messrs. Dumas & Balard.

This reduction, then, will bring it more directly in competition with silver, the only metal, we presume, it can at all supplant in dentistry, and only then on the ground, either of superior qualities, which is yet to be determined, and which we are not prepared to expect from the information we are now possessed of, or on that of economy, both metals being otherwise equal. We consequently await the result of further experiment and additional information on the subject.

THE DENTAL NEWS LETTER.

APRIL, 1856.

CONDENSATION OF GOLD.

We promised in the last News Letter that we would continue our article on this very important subject ; we also stated, at the commencement of our experiments with our *dynamometer*, that we would make the experiments for every body's use, and we see already that the facts then stated are being applied in the consideration of the subject of the kind of gold best suited for plugging teeth. It is doubtless on this ground that the great question will be settled at last, as to what is the proper preparation of gold for the purpose of plugging, and as to how it should be introduced into a cavity for general purposes. One preparation may be better suited in special cases, however, than another, a matter which will always require the exercise of the judgment of an experienced operator.

Cylindrically Prepared Foil.—We were first instructed in this method of using gold foil in August last, by Dr. J. S. Clark, a distinguished dentist of New Orleans. He wished us at the time to test it for him, and in due time give our opinion about it. This he could do, however, much better than we ; he has given his method to the world already, and if we should commit any errors in what we say about it, we wish him to correct us. He cuts the foil into strips, wider or narrower as may be required, and then folds it upon itself as a surgeon makes a compress, or as a bolt of cloth is folded. He considers this preferable to rolling it on a narrow watch spring, as we have been in the habit of doing for years, in making flat pellets, on account of its allowing the air to escape from between the folds during the process of condensation. He folds it on a yielding surface, such as a piece of buckskin fixed to a board, or a hard cushion. We use a cushion and commence by placing one blade of our gold scissors in the middle of the strip to be folded, and, pressing gently, the edges of the strip will be raised up as the middle is thus depressed, which favors us in throwing the edges together ; now the strip is only half as wide as when we commenced ; we repeat this operation until we have the strip narrowed to the desired size, making some wider or narrower, according to the depth of the cavity to be filled. These

folded strips are now ready to be rolled into cylinders, which is readily done by using a watchmaker's broach a little larger than a cambric needle; any one can make as good an instrument, however, of a small wire or a common pin; this instrument must be square, or five or six sided, to present edges to hold on to the strip while rolling it. The end of the strip to be rolled, is taken between the thumb and forefinger of the left hand, and the point of the instrument placed on the end of the strip and pressed hardly upon it, and rotated at the same time to catch and hold the strip while rolling it. The cylinder may be made harder or looser, as the case may be, proportionately as the strip is allowed to escape from the grasp of the finger and thumb, between which it is held; they may be made larger or smaller as the case may be. A leaf of No. 4 gold, cut into three portions, makes very convenient sized strips when folded, or No. 6 gold, cut into four parts. If the strip when folded is too heavy, it will not roll well into cylinders, because it requires too much effort to bend the strip, and the needle on which it is rolled will tear the inner folds and loosen its hold on the strip. Small cylinders, as a general rule, may be rolled harder than larger ones, and they may be from the size of a No. 8 needle to that of a common quill. If this method of preparing the gold before it is placed into the cavity, be carefully followed, the surfaces of the folds will be brought into contact with each other with such accuracy that the slightest pressure will make the mass quite solid. The lighter leaves make better cylinders than the heavy ones; therefore we use No. 4, 5 and 6; and never any heavier than No. 6. In placing these cylinders in a cavity, a large and loosely rolled one is placed in first, if a smaller one cannot be retained in its place, and then this cylinder may be pierced with a round-pointed instrument and a smaller cylinder introduced into it, and so on until the cavity is filled, when the whole mass may be pressed well and filed off and polished.

The whole process is to begin with large cylinders and any kind of an instrument to put them in place, such as a small pleyer or plugger, and then using smaller and smaller pluggers and cylinders until the cavity is filled, ceasing with a very small instrument and small hard cylinders some where in the body of the plug, instead of between the plug and the margin of the cavity. There may be some disadvantages in using cylinders, such as taking the risk of breaking the walls of a cavity, but this danger seems to us to be as great with foil in the form of coil or twisted rope, if the same density of the gold is obtained near the walls of the cavity; and, again, that they cannot be used as we

as the rope on approximal surfaces. We cannot yet use them as readily in some of those cases, or in very shallow cavities, as well as the coil or strip before it is rolled into cylinders, but for crown cavities they are invaluable in regard to the strength of the plug, and economy in time and labor. We demonstrated before the class in the college that more gold could be put in an ingot, with about one-third the pressure required for condensing foil in the ordinary way. We find that the ends of the cylinders excite considerable irritation when they come in contact with sensitive dentine; this can be obviated by placing a thin layer of folded gold over the sensitive part of the cavity before introducing the cylinders. A plug of this kind is much more readily polished than the coil, and is not liable to scale off in masticating. The plug can also be allowed to extend above the surface of the cavity, without the danger of it breaking off, that attends the use of the coil. We use the cylinder gold wherever we can, notwithstanding some members of the profession have used it many years ago, and have abandoned it. The best operations performed by the graduates of the class of the Philadelphia Dental College were done with cylinders. We state this to show that young men can use it as well as the coil or rope.

We are quite sure we cannot do the subject full justice in a short article, nor can we, indeed, give a proper idea of the simplicity of the method in writing: five minutes' showing would, in our humble opinion, do more good than a week's writing; and we take occasion here to thank Dr. Clark for his kindness in showing us its use during the sitting of the Convention last summer.

J. D. W.

Dr. S. L. Mintzer of this city, has shown us a plan he has recently adopted of lining his teeth, which consists in allowing each stay to overlap the other, and running off to a thin edge. By this method he obtains additional strength—a continuous lining of course—and finds that the solder flows up the joints more easily and perfectly than where the edges of each stay are simply brought together; and, further, that the teeth are not so liable to shift their position in soldering.

The plan works admirably in his hands as his work plainly shows.

J. R. M'C.

Patent Improved Alcohol Blow-pipe.—On the cover will be found an advertisement describing a new apparatus for soldering, which, from the trials we have made, promises to be an efficient instrument for the purpose designed.

J. R. M'C.

See cover for various advertisements of interest.

The Annual Commencement of the Baltimore College of Dental Surgery was held on the evening of March 4, 1856. We are informed a large audience was in attendance. The exercises were enlivened with excellent music by the "Blues' Band." The valedictory was by Dr. S. Brown, at the conclusion of which he "proposed three problems, to which Prof. Bond, in a brief impromptu, offered as many solutions, highly humorous and most happily suited to the occasion." The names of the graduates are as follows :

A. H. Balderston, W. H. Hoopes and Thomas O. Walton, of Maryland ; S. A. Bruce and C. W. Reed, of Virginia ; C. M. King, G. W. Neidich, R. B. Reynolds, E. W. Swentzel and E. Weiler, of Pennsylvania ; T. J. Corpening, G. C. Lewis and B. H. Padgett, of North Carolina ; W. F. Edington, of New York ; R. C. Cyphers, of New Jersey ; J. M. Lauck, District Columbia ; J. W. Whitmore, M. D., of Mississippi.

J. R. M'C.

The Commencement of the Ohio College of Dental Surgery was held on the evening of the 20th of February, and was well attended ; many members of the profession from a distance being present. The graduating class numbered ten, and are as follows :

Franklin Bell, Charles R. James and Thomas F. Davenport, Cincinnati, O. ; Franklin Grimes, Mo. ; Jno. R. James, Ky. ; Jno. F. Mercer, Canada West ; A. D. Nevius and Wm. G. Drake, Miss. ; A. G. Stipher, Ill. ; E. Osmond, Ohio.

The valedictory, on "The Progress of the Age," an able, chaste and eloquent production, was by Prof. J. Taft.

The following list of operations performed in the infirmary, will give some idea of the opportunities afforded the student for practical knowledge :

Number of teeth filled with gold, 180 ; number of teeth filled with other materials, 50 ; teeth extracted, 262 ; patients' salivary calculus removed, 22 ; pivot teeth inserted 5 ; diseased antrum treated, 1 ; full sets inserted, 9 ; upper sets, 2 ; partial sets, 7 ; operations repaired, 6.

It will thus be seen, that there is no lack of opportunity to become thoroughly educated in the profession, in the great West. J. R. M'C.

Dental Practice for Sale.—An advertisement with this heading will be found on the cover. Knowing the party, we are enabled to add that the representations made, may be relied upon. J. R. M'C.

Local Anæsthesia.—On the cover will be found an advertisement from Dr. Branch, informing the profession that he is now prepared to offer his apparatus for the production of local anæsthesia.

We can readily foresee that in the hands of a judicious operator, and with those patients especially who dread the pain attending extractions, such, indeed, as demand ether or chloroform, it will prove, particularly on the ground of safety, a valuable agent, and therefore worthy the attention of all.

J. R. M'C.

Dental Associations.—We have been politely favored with a circular letter, signed by twelve of the resident dentists of St. Louis, calling a meeting of the dentists of Missouri and adjoining States, for the third of April, in the City of St. Louis, with a view to the formation of a Dental Association. The circular sets forth the advantages to be gained by such association in a true light, and is, in substance, but an endorsement of the views we have always entertained and promulgated on this subject.

The movement has our best wishes for a successful result—the establishment of a flourishing Society, the good of which must be felt by all connected with it.

J. R. M'C.

Enlargement.—We are again under the necessity of adding to the number of pages of our regular issue. From present indications, we are induced to think we will have to maintain our present size in consequence of a press of matter, all which, of course, we desire to publish, and yet are unable, even with our increased size, to give. We shall, however, be able to speak more definitely on this point in our next issue.

J. R. M'C.

Papers received.—Essay on Associated Effort—Local Anæsthesia—The Adjustment of Lower Plates—Proceedings of the Pennsylvania Association of Dental Surgeons—Sensitive Dentine.

J. R. M'C.

For the Dental News Letter.

MESSRS. EDITORS:—I have recently put a small flatted wire-edged rim around air-chambers in atmospheric plates, and I find that it increases the power of adhesion very materially. After it is soldered in place, I trim it with a file so as to produce what will be understood as a rim of half-round wire. I have five cases in operation which give great satisfaction. If you think such a trifle worthy of mention in the News Letter, you are at liberty to insert it.

Your obedient servant,

W. G. OLIVER.

The Fourth Annual Commencement of the Philadelphia College of Dentistry was held at the Musical Fund Hall, on the evening of February 29, 1856, before a large and fashionable audience, when the degree of "Doctor of Dentistry" was conferred upon the following named gentlemen:—J. Canning Allen, jr., Philadelphia; Wm. T. Arrington, Tennessee; James P. Broun, Virginia; Charles H. Burr, Maine; Louis Martin y De Castro, Porto Rico; Antonio L. Coopat, Cuba; Francis Field, Massachusetts; J. Foster Flagg, Philadelphia; James E. Garretson, Philadelphia; William Grimes, Indiana; John W. Hunter, North Carolina; Jose G. Lopez, Porto Rico; Samuel Martin, M. D., North Carolina; A. F. McLain, Louisiana; Robert McClellan, Pennsylvania; Charles Neil, M. D., Philadelphia; Henry B. Parry, Lancaster; Alan W. Read, Norristown; W. Bartling Robbins, Philadelphia; R. Woodward Robinson, New York; John Z. Stanger, New Jersey; James K. Whiteside, Pennsylvania. In all 22.

The matriculants for the past session numbered forty-four.

The Valedictory was delivered by Prof. Flagg.

The proceedings were enlivened by music from an efficient orchestra.

After the public proceedings were over, the Faculty, the entire class, and many of the friends of the institution, partook of a collation at Parkinson's, where the evening was spent in a social and an agreeable manner, with speeches, sentiments, etc., all apparently enjoying themselves greatly.

We subjoin the Demonstrators' reports for the session just closed.

OPERATIVE DEPARTEMENT.

Fillings,	-	-	-	-	-	-	562
Treatment of "Nerve," (cases,)	-	-	-	-	-	-	84
Extraction of Teeth and Roots,	-	-	-	-	-	-	723
Superficial Caries,	-	-	-	-	-	-	2
Removal of Salivary Calculus, (cases,)	-	-	-	-	-	-	27
Pivot Teeth Set,	-	-	-	-	-	-	7
							<hr/>
Total operations,	-	-	-	-	-	-	1405

LOUIS JACK, *Demonstrator.*

MECHANICAL DEPARTMENT.

Entire Sets of Teeth,	-	-	-	-	-	-	3
Partial Sets,	-	-	-	-	-	-	16
Total of Teeth inserted,	-	-	-	-	-	-	163

W. CALVERT, *Demonstrator.*

A correspondent who was present at the commencement of the Philadelphia Dental College, and who made himself familiar with its course of instruction, sends us a very flattering communication in reference to the institution and the advantages it offers to the dental student. His praises of both Faculty and the facilities afforded, are given without stint or qualification. After describing the various rooms and their appliances and uses, he says :

J. R. M'C.

"Thursday being examination day, we had the pleasure of seeing specimens of work. Many of the fillings that were done by the students would do honor to dentists of riper years ; but when we heard Prof. Townsend say "those are \$25 fillings," our curiosity was a little excited ; they were not what I should term fillings exactly, but rather teeth made out of pure gold. They were specimens of Dr. Louis Jack, the Demonstrator, and they do him honor. They show what can be done with "annealed gold," which I consider of great value to the profession, but requiring suitable instruments, and proper knowledge in using it. This information alone, I consider, amply repaid me for my visit to Philadelphia." * * * * F. W. D.

COBALT AND NICKEL.

M. Deville, in a paper before the French Academy, suggests "that other more common metals than aluminium, are perhaps less known than may be thought, and he expressed the hope that when he shall have completed a memoir on the pure metals, produced and melted by certain, yet secret, processes, which he has long been preparing, he shall exhibit some unexpected results. Thus he instanced cobalt and nickel, which possess useful physical properties, such as malleability, ductility, developed to a most extraordinary degree ; further, they enjoy a tenacity far exceeding that of iron, which hitherto has passed as the most tenacious metal ; for, according to the experiments made by M. Wertheim on these metals, the weights which determine the rupture of wires of iron, cobalt and nickel of the same dimensions, are 60 for iron, 115 for cobalt, and 90 for nickel, which shows the tenacity of cobalt double that of iron ; besides, nickel and cobalt are worked at the forge with the same facility as iron, are oxydized less easily than iron, and are susceptible of being employed in the same manner as iron."—*Annual of Scientific Discovery*, 1856.

EXTRACTS FROM THE DENTAL PERIODICALS.

We continue our extracts as commenced in our last, and shall hope to make this department an interesting one. J. R. M'C.

American Journal of Dental Science, for January.—From a continued paper on “Diseases of the Dental Pulp, and their Treatment, by Chapin A. Harris, M. D., D. D. S,” we make the following liberal extracts.

He first alludes to the liability of an exposed pulp “to become the seat of chronic inflammation,” and that “the exposed diseased surface will pour out serous fluid, thus rendering the operation of filling, during the continuance of morbid action, impracticable,” etc., and that “if we would preserve the vitality of the tooth, our attention must first be direct to the restoration of the pulp to a healthy condition.” He then refers to the remedies usually employed, such as creosote, the essential oils of cloves, cinnamon, cajuput and tannate of lead, and says, “he has seldom derived much benefit from them in the treatment of chronic inflammation of the dental pulp,” and further—

“A saturated solution of tannic acid in spirits of wine, with a sufficient quantity of gum benzoin dissolved in it, to make it of the consistence of thick mucilage, applied on a little raw cotton, has been attended with more satisfactory results, in the practice of the writer, than tannate of lead.* A two-fold benefit is often obtained by the use of this preparation; for, while the stimulating properties of the alcohol have a tendency to allay pain, the astringent effect exerted by the tannin promotes resolution of the exposed inflamed surface of the pulp.

He then gives a brief history of two cases in which this remedy had been successfully employed, but adds:

“It has not proved thus efficacious in all the cases in which it has been employed by the writer. It has failed to accomplish the object proposed in a majority of the cases in which he has used it. Still, the beneficial effects which have resulted from its employment, entitle it to a place among the remedial agents resorted to in the treatment of the affection under consideration.”

After referring to Dr. Kœcker's views and mode of treatment in such cases, the writer says:

“A solution of sulphate of zinc in rose water, in the proportion of from six to eight grains of the former to an ounce of the latter, with

* The use of this preparation of tannic acid was recommended to the writer a few years since by Dr. F. H. Badger, of Nashville, Tenn., but not as a remedy for chronic inflammation of the pulp of a tooth.

thirty-five or forty drops of laudanum, may sometimes be employed with advantage when the tooth is free from pain. It acts as a cooling astringent, producing a very pleasant effect. The cavity in the tooth, however, should be first properly prepared. It is applied like most other remedial agents, on a little raw cotton, sealing up the orifice with wax or mastic to exclude the secretions of the mouth. It causes for a few minutes, when first applied, a slight burning sensation, but this very soon subsides, leaving the tooth entirely free from pain. It should be applied once a day until the desired effect is produced, and in closing the orifice of the cavity care must be taken not to press upon the exposed pulp, as the irritation which would be thus produced would counteract the beneficial effects of the preparation. This may always be prevented by placing a cap of tin foil over the dossil of cotton before the orifice is closed.

On the subject of *Ulceration*, we quote :

“It is seldom that the pulp of a tooth can be restored to health after it has become the seat of ulceration. The difficulty of applying to it suitable remedial agents and protecting it from the action of irritants, such as particles of foreign matter and the secretions of the mouth, increases the difficulty with which the practitioner has to contend, and very often renders unsuccessful, remedies which, under other circumstances, might produce the desired effect. Still, ulceration, even of this most exquisitely sensitive tissue, is sometimes cured, and when the preservation of the tooth is called for by some peculiar or urgent necessity, every resource of the dentist should be called into requisition for the accomplishment of the object.

“The treatment usually adopted in cases of this kind consists in the application of escharotics to the ulcerated surface of the pulp. Nitrate of silver has sometimes been successfully employed. It is used in a diluted state, in the proportion of from six to ten grains to an ounce of distilled water. It should be applied every day until the ulcer is healed, and the cavity in the tooth, after each application, carefully closed to exclude all extraneous matter. The tooth, too, previously to commencing the use of it, should be freed from all decomposed portions of dentine. Chloride of zinc has also been used with advantage, but it is less efficient than nitrate of silver.”

In referring to the actual cautery, as recommended by Dr. Kœcker, and which the writer thinks “may, perhaps, after all, be better calculated to bring about a favorable result than any other remedial agent,” he adds :

“The dentist having determined to apply it, should first prepare the cavity in the tooth by the removal of all decomposed portions of dentine, and being now provided with a lighted tallow candle, he holds in the flame of it the point of an iron wire until it attains a red heat, then applies it, for an instant only, directly to the ulcer. If this is followed by any bleeding, it is touched a second, and, if necessary, a third time, in quick succession. This done, the cavity in the tooth is made perfectly dry, a small piece of leaf lead placed over the bottom and the filling immediately introduced. This method of treatment,

according to Dr. Koecker, proved eminently successful in his hands. The writer, however, has never tried it. Indeed, until within the last three or four years, he doubted the practicability of preserving the vitality of a tooth after ulceration of the pulp had taken place, but having been convinced that it can sometimes be done, he no longer doubts the truth of Dr. Koecker's statement. But the use of the actual cautery can only be resorted to in those cases where the diseased surface of the pulp is easy of access.

"Should the foregoing methods of treatment fail to restore the pulp to a healthy condition, the vitality of it may be destroyed, either by the application of arsenious acid, or direct extirpation, if the preservation of the tooth be deemed a matter of sufficient importance, and as this often becomes necessary, a brief description of the manner of doing it, and the subsequent treatment, may now very properly be given."

Destroying and Extirpating the Pulp, and Filling the Root.—On this subject he says:

"Immediate extirpation of the pulp is attended with more pain than the destruction of its vitality with arsenic, and is seldom resorted to in a tooth having more than one root. It is effected by thrusting a very delicate untempered spear-pointed steel instrument directly into the nerve cavity to the extremity of the root, then it is severed by a few rotary motions, and if not brought away in the withdrawal of the instrument, may be removed with another having several sharp barbs cut upon it near the point. Some dentists think this method preferable to the other, and better calculated to secure the subsequent preservation of the tooth, but others, who have practiced both, deny that the former possesses any advantages whatever over the latter. It is supposed by some that the effects of the arsenious acid extend to the peridental membrane, impairing, if not destroying, its vitality and rendering the tooth obnoxious to the parts within which it is implanted. But this effect can only be produced by a larger quantity, and permitting it to remain longer in the tooth than is necessary to accomplish the object proposed by its employment."

On the use of arsenic in destroying the pulp, we quote as follows:

"In destroying the pulp with arsenious acid, it is not necessary to use a very large quantity; the thirtieth part of a grain is amply sufficient, combined with an equal quantity of sulphate of morphia. For convenience, have a grain of each thoroughly incorporated, by grinding in a small mortar, then divided into thirty equal parts and each put up in a small piece of paper and keep ready for use. One of these is applied on a dossil of raw cotton moistened with creosote, or oil of cloves or cajuput and applied directly to the exposed part of the pulp. Over this a small cap of lead or tin is placed and the cavity in the tooth filled with wax or Hill's stopping, to exclude the buccal secretions and prevent the arsenic from escaping into the mouth. The advantage derived from placing a cap of lead or tin over the arsenic is the prevention of pressure on the pulp in filling the cavity with wax and the consequent freedom from pain during the destruction of its vitality. When this is done, the tooth rarely aches during the actio

of the arsenic. With proper care, the cavity may, in nineteen cases out of every twenty, be filled with wax or any other plastic substance, when the application of a protective covering to the pulp is omitted; but by using such precaution the liability of it is prevented, and the trouble of applying it is so trifling that it should always be done, at least, by the inexperienced practitioner.

"At the expiration of from six to ten hours, the arsenic may be removed and the cavity washed with tepid water. This done, the opening into the central chamber of the tooth is enlarged by cutting away the solid dentine, with instruments properly adapted to the purpose, and, when practicable, without wounding the dead pulp, which may afterwards, in many cases, be brought away almost entire. Every particle of it, however, should be removed to the very extremity of the root or roots, if the tooth have more than one. With a view to which, untempered steel instruments with barbed points, and sufficiently small to traverse the canal in the root, is introduced and withdrawn several times, or until the operator is absolutely certain that no portion of the disorganized pulp remains. This part of the operation is sometimes exceedingly difficult, requiring the patient exercise of no little ingenuity and skill, especially when the tooth is a bicuspid or molar, having two or more roots, and the opening through the crown in the posterior approximal surface. Indeed, it cannot always be done without first filing away one-fourth or one-third of the crown, and increasing the size of the external opening.

"In a lower molar the anterior and posterior walls of the canal in the roots, almost meet in the centre, leaving a very delicate opening or canal on each side, from both of which the elongated pulp is to be carefully removed. This, also, is sometimes the case in a bicuspid, so that instruments not larger than a small bristle are often required. When the root is bent or curved, the difficulty of traversing it to its extremity, is, of course, very greatly increased. The canal in the buccal root of an upper molar is not unfrequently so small that it cannot be penetrated through its entire length, even by the most delicate instrument that can be made. In this case the dentist must be content with the removal of as much of the hair-like elongation of the pulp passing through it as he can bring away, and, fortunately, any portion which may afterwards remain is too small to be productive of serious injury.

"The arsenic should never be permitted to remain in the tooth longer than from ten to sixteen hours, and in most cases from six to seven will suffice for the complete destruction of the vitality of the pulp, and when placed directly upon it, a second application rarely if ever becomes necessary."

After referring to the slight oozing of blood from the mouths of the several vessels, which usually occurs after the removal of the pulp, he says:

"Having ceased, the pulp cavity may be syringed out with water and then dried with prepared raw cotton, but the most convenient way of introducing this into the root,* is to wind a small quantity on a

* Cotton used for drying cavities in teeth preparatory to filling, should have the oil removed from it by boiling a few minutes in a tolerably strong solution of carbonate of soda, or some other alkali, to make it absorb moisture freely.

probe small enough to penetrate readily to its apex, and made rough to prevent the cotton slipping off when the instrument is withdrawn. This done, the operation of filling may be commenced, but in introducing the gold, different practitioners have adopted different methods of procedure. Some adopt the method proposed by Dr. Maynard, of introducing very thick foil, say No. 15, 20 or 30, cut in strips not wider than the diameter of the smallest part of the canal in the root; others use it rolled into small cylinders, as recommended by Dr. F. H. Badger, and others again prefer to introduce it in the form of small pellets. But, whatever be the form in which it is used, it is necessary to consolidate it sufficiently to render it impermeable to fluids."

The paper then goes on to give various methods of preparing the gold in filling the fangs, such as cylindrical cones, "small square pieces varying in size from a twelfth to a fourth of an inch," etc., also as to the points and character of the instruments, and then says:

"The relative merits of these several methods of procedure depend very greatly upon the perfection in which each is practiced. The root of a tooth may be very compactly filled by either, but to do it, requires, as already intimated, much time, and the nicest skill in the management and working of the gold, especially when the canal is very small and difficult of access."

On "*fungus growth*," we quote as follows:

"There is sometimes developed from the pulp of a tooth, after it has become exposed, and been in a state of chronic inflammation or ulceration for a greater or less length of time, a morbid growth, which assumes the form of a small vascular tumor of about the size of a duck shot or elderberry, and as sensitive to the touch as the pulp when in a healthy state. It rarely grows very rapidly, and never attains a very large size. It always proceeds from the exposed parts of the pulp and is preceded, usually, for several weeks by chronic inflammation or ulceration. The proper remedial indication consists, in a majority of cases, in the extraction of the tooth, though the fungus growth, it is probable, when wholly confined to the pulp, may sometimes be repressed by the application of escharotics or the actual cautery. The disease, however, is usually regarded as incurable."

Spontaneous Disorganization.—On this subject we make the following extract:

"This affection, as the writer has stated in another place, seems to have been entirely overlooked by writers on dental pathology, and although it is one which rarely occurs, examples of it are met with sufficiently often to entitle it to a place among the diseases of the teeth. The first case to which his attention was particularly directed, occurred in 1836. Since which time, eight or ten other cases have fallen under his observation. In each, the disorganizing process was carried on so insidiously that neither structural alteration or the existence of diseased action of any kind was suspected, until the teeth assumed a dull bluish brown appearance. In neither case, so far as could be ascertained, was there the slightest indication of inflammatory action. Th

death was seemingly the result of the suspension of the nutritive function occasioned by the want of sufficient vital energy to carry it on."

The paper closes with some remarks on ossification of the pulp of the teeth, in which the writer refers the reader to "the Principles and Practice of Dental Surgery."

In an article on "Filling Teeth, by F. H. Badger, D. D. S.," a description is given of a difficult case—"one of the most difficult"—where the cavities were situated on the posterior sides of the second molars, and which were not detected until the accidental observance of "a whitish clouded appearance" on the approximal surfaces of the two superior wisdom teeth which had been extracted, being ruinously decayed. On a close observation, "a chalky spot was discovered on each, wonderfully alike in size, shape and position, and both yielding readily to a small cutting instrument." "These spots were but slightly removed from the gum, and decidedly nearer the palatine than the buccal surfaces of the teeth," and "about the size of a No. 5 shot. By the aid of a mirror in one hand, while operating, the decay was removed and the cavity finally prepared to the operator's satisfaction by the use of a burr-drill working through a tube to prevent friction on the lip."

The manner of filling, we give in the writer's own words:

"No. 4 gold foil was folded into a strip, one-third wider than the cavity was deep. The strip was then folded end-wise upon itself until it could be folded no longer, then rolled in the hand with the finger; the proper amount of foil having been used, a pellet was formed the thickness of the burr-drill which had been used, its length being the same as the width of the strip out of which it had been formed. It was then forced through a smooth hole in a steel plate, a little too small to allow the burr to pass through, in order to insure its ready entrance into the cavity it was intended to fill, then annealed, and placed conveniently for use.

"The necessary preparations having been made to begin, part of a bottle cork was placed between the opposite jaws to prevent the mouth from closing. A pledget of blotting paper was then placed over the mouth of the duct of steno, to prevent or imbibe the flow of saliva in that quarter, and a small linen napkin also, intended to absorb moisture, placed between the lip and gum in front, and carried back between the cheek and jaw, around the tooth to be filled, thence forward over the tongue to the front of the mouth.

"With cotton on the end of a carrier for the purpose, and small rolls of tissue paper, carried to the place with a curved tweezers, the cavity was well dried. Having the mirror in the proper place, the pellet was caught with the tweezers, carried back and introduced into the cavity, then pressed home with a flat-ended instrument. A curved instrument was then selected with a tolerably sharp point, with which

the pellet was pierced through its centre, to the bottom; other instruments possessing a like curve, but with successively larger points, were forced into the same opening until the gold was brought in close contact with every part of the cavity, and rendered exceedingly dense. The opening in the gold was then filled with a suitable pellet, prepared similar to the first, but rather shorter. This was forced in, a little below the surface of the first pellet, which still projected above the mouth of the cavity. The gold overlapping the edges of the orifice, was now gathered up towards the centre, over the outer end of the second pellet and pressed down with a crank-shaped instrument with great force.

"The napkin, &c., was now removed, and the patient allowed to rest. The gold was then alternately pressed, filed and burnished, until brought down to a level with the surface of the tooth, and finished.

"No moisture was allowed to enter the cavity during the operation.

"The plug was hard, and presented as perfect an appearance as any I had ever before inserted. The time occupied in the operation was much less than in some others which had preceded it, where the cavities were much easier of access.

"I was delighted, of course, with my success. So was my patient. And two days after, the opposite tooth was treated in the same manner."

"Pivoting Teeth, by John Coghlan, M. D., M. R. C. S., Eng."—

This writer contrasts the utility of the wooden, with the metallic pivot in the insertion of pivot teeth, and gives the preference to the latter; but his objections to the use of wood, would hardly be considered valid in this country, especially when it is combined with metal, as is now general. He says:

"The wooden pivot, so extensively and successfully used in America, is, I have reason to think, not so likely to produce alveolar abscess as the metallic one generally used in this kingdom, and throughout Europe. The difference in this respect, appears to me to depend on the wooden pivot being generally shorter, and rather slack, when pressed into the canal of the stump; the operator, depending, in a considerable degree, on the swelling of the wood to give it the necessary security. On the other hand, when a metallic pivot is used it more nearly fills the canal, and is totally dependent for its stability on the firmness with which it is pressed in at the time. It might then be asked, why not use the wooden pivot? In reply, I would state, that I have seen teeth pivoted with gold, still firm and perfect, after having been in the mouth for ten or twenty years! and that could not possibly be the case with wood! And again, should the canal of the stump not correspond in duration with that of the teeth to be put on, it complicated the operation considerably, and if, as sometimes occurs, the deviation be very great, it would, in my mind, form an insuperable objection to the wooden pivot."

After speaking of the difficulties to be encountered in pivoting, from the variety of cases and their tendencies, and the great necessity for an outlet for the secretions, he remarks:

"Impressed as I have been for some years past with the correctness of these views, I have cut grooves in the pivot, and in fact tried every device I could think of, or that had been suggested to me, for the purpose of overcoming the difficulty; but I failed in any good *practical* result, till I thought of substituting a capillary tube for the solid pivot. The effect of the tube has been most satisfactory. By using a little care it may be used with all sorts of teeth having a thorough outlet. It may be tapped for screwing through natural teeth, or fastened by the same means as the solid pivot to the different manufactured ones. When using solder, I have sometimes found it of advantage, to suck up a little finely powdered pure plumbago and water through the minute tube of the wire, in order to prevent its being encroached upon: I have thus entirely got over the disadvantages and lost none of the advantages of the solid metallic pivot."

This method of pivoting would require, of course, that the pivot hole should pass entirely through the artificial tooth or crown.

"*Destroyed by Fire.*—We learn, with sincere regret, that among the losses occasioned by the late fire in Syracuse, N. Y., was the *New York College of Dental Surgery*, occupying the third and fourth stories of the Wick's Block, as well as the dental rooms, in the second story, of Professor Westcott. The entire Museum, embracing, as we are informed, many valuable preparations, imported from Paris, were consumed, together with the apparatus and chemicals of the laboratory, the fixtures and apparatus of the lecture rooms. An extensive mineralogical and geological cabinet, belonging to Prof. W., and placed in the lecture room, were, in part, we are glad to learn, got out of the building. The paper from which we obtained the above particulars is unable to inform us whether the losses, or any part of them, sustained by Prof. W., were covered by insurance. We trust that this was the case.—*Balt. Journ. Dental Science.*

Dental Register of the West, for January.—In this number we have a continuation of the paper on "Treatment of Dental Caries," etc., 'by James Taylor,' from which we make some extracts. He opens with the question, "How shall we properly diagnose an irritable pulp?" and goes on to consider the appearance, the result of heat and cold, superficial examinations with instruments, etc., and the symptoms induced, any, or all of which, may not prove satisfactory, and says, "all these symptoms are not sufficient to diagnose an exposed pulp."

* * * * "If, however, the pain becomes continuous, and is increased instead of diminished on going to bed, and assumes more of sharp and then *throbbing* character, we may safely infer that the

pulp is either exposed, or has become involved in the general inflammation; and unless this is promptly relieved its destruction is inevitable."

Again, "It may be asked, is there any positive symptom by which we may determine the condition of the pulp, without removing all the carious matter to see if it is exposed by the disease? or, in other words, to see if the dentine has been utterly decomposed to the pulp. We would answer that we have one *unerring* symptom which, if present, always speaks favorable for the condition of the pulp. We allude to the sensibility of the dentine under the enamel, or around the carious opening at a distance from the pulp cavity. * * * *

"We prefer an exalted sensibility to an obtunded one; the latter we regard as the exhausted vital energy so much dreaded in typhoid fever; the former as perhaps denoting an excessive nervous irritability, yet giving assurance of a vital power and energy on which it is far more safe to rely. We have the means at hand to subdue the one, but where shall we find the agent to restore the other?"

He then considers the causes producing an irritable pulp, "the first and most direct of which is caries." As to the effect of caries, he says:

"In some cases the cause of caries appears to completely obtund the sensibility of the dentine as rapidly as decomposition takes place, while in others we have increased sensibility, and this increased sensibility may be induced by an acid condition of the secretions of the mouth, and yet the direct cause of decay be the same as when the sensibility is obtunded."

He suggests that the character of the secretions be determined, and if found of an irritable character, that they be corrected by neutralizing remedies. He then alludes to the fact that inflammation will "produce irritation of the nerves of all the teeth on that side of the mouth, and sometimes of all the teeth." After extracting all the teeth requiring removal, and by the use of astringents, thorough cleansing, etc., which course he thinks will modify the acid secretions of the mouth, and often completely change the condition of the organs which it is the desire to preserve. He then speaks of the removal of the carious portion of the tooth, during which, if pain is induced, he prefers to remove but a portion at one sitting, and plugging the cavity with cotton moistened in creosote and tannin, and covering the whole with wax or gum mastic, which operation he repeats every day or two until the entire decay is removed, "and the cavity will bear the compacting of cotton or some such substance without any special pain. In allaying the pain produced by an irritable pulp, and the proper remedies to be employed, he says:

"We have frequently resorted to the use of collodion, but this generally induces more pain when first applied and we have not four

it so reliable as the creosote and tannin, which by the caustic or antiseptic property of the one and the astringent of the other appears to exactly meet the exigency of such cases.

"It would be well to bear in mind that all arsenical preparations are here inadmissible. The close proximity of the pulp prevents the use of those remedies which might be available in the treatment of mere irritable dentine. Chloride of zinc, which at times is a very efficient remedy for the treatment of inflamed dentine, we also discard in cases of irritable pulp."

And again, "It is the loss of substance and the danger of inducing inflammation of the pulp which forbids the use of any caustic preparation, having an affinity to the lime of the tooth.

"We regard the creosote as not of the same character as the caustic potassa, nitrate of silver, chloride of zinc, etc. The direct action of the agent (creosote) on inflamed dentine is rather difficult satisfactorily to explain. It is regarded by Webster, Ure and other authors, as an antiseptic and powerful stimulant. Its direct action on the mucous tissue appears to be caustic—its direct effect on inflamed dentine is to relieve pain, and not to diminish the sensibility by any caustic property. That its antiseptic property may be useful in preventing decomposition of that lamina of bone which is inflamed, and which is the only covering to the pulp, we think is highly probable. We see no reason why antiseptic remedies should not be resorted to in such cases for such an object, as well as to prevent disorganization of other tissues of the economy when laboring under disease.

"Considering the true pathology of the disease under consideration, and the known antiseptic property of this remedy, we then prescribe it for a two-fold effect; first, its penetrating soothing influence, and second, for its antiseptic action on that portion of dentine, which we wish to preserve from disorganization. * * * * *

"It should be borne in mind, that in the treatment of the pulps of teeth thus far considered, we have not an utter exposure, and also that we have to treat a lamina of inflamed dentine. The treatment is to preserve the vitality of the tooth, and this the only covering to the pulp.

"We regard this covering, although diseased, as a far better covering than any other which can be substituted in its place.

"The question might very properly be asked, should this covering be retained even if its vitality cannot be preserved? We answer, by all means; unless its constituents are disintegrated or inflammation supervenes in the pulp requiring its destruction. If the latter takes place, it will be denoted by increased pain, soreness of the tooth when struck upon, &c.

"The treatment proposed will generally diminish the sensibility in from four to ten days, and when such is the case and the carious portion can be removed, the tooth is ready for filling.

"We have still, however, one resource left us after all; these remedies have been used, and the tooth is still too tender for a solid and permanent filling. It is this: Remove all the softened caries, repairing all the walls of the cavity for a plug, but leaving over the nerve all of the partially decomposed dentine which cannot be removed

without much pain; wash out the cavity well with warm water, then take of Hill's soft filling material and cut a cap of the same to lay over the pulp cavity; fit this carefully over the same when in its hard state; then, with a sufficient quantity of the same, properly warmed, fill up the entire cavity.

"This excludes all foreign matter, and being a non-conductor, prevents the extremes of heat or cold from effecting injuriously the tooth. This should not, however, be done until the general irritability has passed off. This we regard as a temporary operation, giving time for the pulp organ to throw out a deposition of bony matter sufficient for a proper covering. We leave this in from one to six months, and within the last week took out one which had been in for two years. In this latter case the tooth was too tender for masticating purposes for over six months. On its removal we found the pulp alive, and but little decomposed dentine in the bottom of the cavity. When this was removed, which was dry and powdery, the dentine was hard and glass-like. In this case, as in most of such cases, the inflamed dentine was well preserved, and hence the agent inducing decomposition had all been removed or well neutralized."

The paper closes with some remarks preparatory to the treatment of the exposed pulp, the discussion of which has been reserved for another article.

The next paper is entitled "*Humbugiana, by one who has been sold,*" in which the writer attempts to hit off, in a humorous manner, the nostrums and "*great discoveries,*" which are so prevalent at the present day, and in which we discover plainly that gutta percha is not an exception with the writer. We have nothing to do with the sentiments but with the manner, for the attempt at humor is a manifest failure and we would quote, for the benefit of the writer, that *im-mortal* couplet,

"A man can no more make himself a poet,
Than every sheep can make itself a goat."

This applies as well in the making of a wit as a poet.

In another part of the same journal we find a communication lauding highly the same preparation of gutta percha, and claiming for many important advantages in the mechanical department of our art

The editorial, "*A New Year's Gift,*" commencing with the stanza

"'A thing of beauty,' and of grace,
A dimpled chin and smiling face,
Gems of art in porcelain ware,
These teeth are beauties, I declare."

We must be pardoned for commending to the attention of all, a touches us tenderly.

N. Y. Dental Recorder, for December, contains a continued article on "Alveolar Abscess," which gives some additional cases in which the writer's (Dr. Ballard) method of treatment, viz: "the usual careful removal of all decomposed substances contained in the pulp cavity of the tooth," and "to arrest effectually the process of decomposition, both in the nerve cavity and beyond it," the latter to be accomplished by the application of creosote on a pledget of floss silk introduced into the pulp cavity,—all of which proved eminently successful.

The *Recorder* for January is occupied (a good portion of it, at least,) with a review, by its editor, of the report of a committee of the Pennsylvania Association of Dental Surgeons on Crystal Gold—which report was published in our January issue—in which the writer is somewhat severe on the gentlemen signing the report.

He defends crystal gold earnestly, and gives his experience with it as follows:

"We have seen failures with crystal gold; we occasionally meet with precisely such cases as those described, [viz: the edges of the fillings crumbling away and admitting moisture freely around them, also discoloration, etc.,] but our failures with crystal gold are fewer than our failures with foil. Every body that uses foil occasionally fails; some fail as often, we are told, as *semi-occasionally*. But that is no argument against foil or crystal gold either. We are almost daily seeing fillings of crystal gold that have been worn from three months to nearly three years, which are, particularly the older ones, superior to any gold foil fillings of similar shape, size and age, that we have ever met with. Failures are mortifying, but they occur to every one. A man's success in any thing depends upon the relative bearing that his failures and successes have towards the sum total of his operations, and he must judge for himself. If he cannot use one article as well as another, he must choose the one he can do the most good with."

"*The Dental Obturator*," for February, comes to us laden with many good things, from which we have endeavored to extract, but have not been able to give as fully as we could have wished, yet something has been gleaned of profit.

The opening paper is "Obturator Chips, No. 3," in which the editor "plays" a little on the subject of amalgams, but has no experience to give, having practiced but little with the substance.

The second paper is "*Popular Complaints—my patients won't pay for the best operations*," in which he discourses in a somewhat stately, but effective manner. He thinks such a confession ought to be very unblushing to a good operator, and that "patients are not all fools, or possessed of too little discrimination to detect the difference, in point of interest alone, between a good operation and a bad or imperfect

one." That in dentistry, "unlike medicine, there is a good degree of demonstration." "Patients may have faults affecting the comfort of the dentist, but more affecting the character of his operations." In his profession of a dentist, "what does he profess?"

"Does he profess to use only a *part* of his knowledge and skill for the benefit of his patients? Does he profess to stir up the disease a little for one dollar? stuff or plaster up the fetid foramen a little for two? make it a little harder, and increase the difficulty a little more, for three? or excavate thoroughly and fill it imperviously for four? and secure it by a polished margin as well as he can for five? Is there a single point, short of the last, consistent with his professions?"

"Is there a point short of that, that he has any right to stop at, even if the operation is gratuitous? There can be but one right way, so far as he is concerned; and has he the least shadow of a right to do a professional wrong? It may be said that perhaps the patient will not submit to thorough excavation, &c. Then the dentist should refuse to operate, or even to finish an operation, if commenced, if he meets with the refusal. Patients should be made to take their full share of the responsibility; but dentists should be willing to take *theirs*, and we hold that there can be no exchange in this matter."

Again, "Let a dentist make himself reliable, both personally and professionally, and he never need complain that patients will not remunerate him reasonably for his operations."

Again, "The husbandman, as he turns the mellow soil, does not look back at the first mark of the plough share and expect to see the waving grain as the immediate result of his labor.

"He faithfully tills the soil, casts the seed, and trusts that, in proportion to his faithfulness will be the result. We only wish the farmer was as sure of a harvest in proportion to skill and faithfulness, always, as the faithful and competent dentist is of success. The one bides the fate of wind and storm, the other trusts the simple utility of rectitude. The one trusts to the probability of a favorable season; the other a principle as immutable as truth.

"We have been considering the point of utility, and there can be no doubt that it runs parallel to truth and the full adoption of principle as the only guide in practice, but we do not present it as the inducement.

"We hold that a dentist had better fail than truckle to the first item of wrong in practice; and if he fails of support, he had better seek some other means of support, for he has no right to commit deductions for a living. No! there is a right and a wrong way in every case. They are antagonistic, and can never be amalgamated; and can he be an honest man who attempts it?"

The next article is headed "WE DON'T READ." In which those self-sufficient—know-every-thing—nothing-new-in-dentistry folks, are pretty sharply handled. Oh! how many such have we come across men who will tell you that they filled teeth as well at the commencement of their practice, many years ago, as they do now; and that

there is any one thing they excell in, it is in filling teeth, etc. There is nothing progressive in such men ; and in alluding to them, we might add, "clear away the dead wood."

The disposition with some to rate their qualifications with their income, and the all-absorbing desire to make money, to the entire exclusion of all claims their profession may have upon them, is also well shown up.

The next paper is "UNFORTUNATE PRECEDENTS," in which the past mode of practice with many (in operating in a hurried way and with more or less thoroughness, according to circumstances, the whims of patients, and the pressure of business,) is earnestly deprecated, and the following remedy suggested :

"Take no more patients than can be attended to in the highest style of the art at command ; to never do less than the very best that can be done for any one, under all circumstances.

"This may seem like a hard experiment for a dentist to divide the operations offered on some particular days into a dozen appointments, but it is only controlling the time that was heretofore left to the control of accident or the convenience of patients, and will be found in the end to impart to those very patients a very salutary lesson as to the importance of a more than casual attendance to their teeth. They never will appreciate the value of the operation, or their position when visiting the dentist, until they relinquish the idea that they can employ the odds and ends of time left from a stroll among the 'tape-sellers,' by 'getting their teeth fixed.'

"When ladies think they can buy ribbons and other dry goods, and step into the dentist's and buy their dental operations on the same terms, and with the same facility, they will never fully appreciate the dentist, or his operations."

And again, "We do not hesitate to say that any man who will just plant himself on the firm rock of the conscientious, unwavering devotion to a thorough performance of the best he knows in all cases, be he young or old in the practice, he will not be long in convincing himself that in this, as in all other things, 'honesty is the best policy.'"

The next is a continued article "ON FILLING TEETH," from which we quote largely.

"In filling a deep small cavity, or in completing a large filling on an approximal surface, it is not always an easy matter to pack the foil thoroughly in the deep and narrow foramen, and then with the roll, strip or pellet, it must necessarily be packed from the bottom up, and that with very small instruments. But with cylinders the gold becomes the instrument, so to speak, and a cylinder can be forced down to the very bottom of the cavity, larger than the instrument necessary to pack with. For instance, say between the incisor teeth; a filling is to be inserted one line deep and half a line in circumference, while the separation between the teeth is less than half a line.

"To pack gold in such a cavity a very small instrument will be necessary, with which very little force can be used, and then it is doubtful whether the packing can always be perfectly done to the bottom of the cavity. In this case, the first cylinder may be put in large enough to half-fill the cavity, and sent to the bottom of the cavity as perfectly as desired. Two or three more will complete the operation, and the last be driven home as perfectly as the first. In filling deep cavities, however, we use the last but one only half as long as the cavity is deep, which is forced down, and, as it were, headed against the bottom of the cavity, which also spreads that inner surface; then the last being forced down to that, if any imperfection exists in the contact of gold, it will probably be in the centre of the filling.

"Again: suppose a cavity on the posterior surface of the last upper molar, so situated that all operations must be performed by the use of a reflector. All that is necessary to accomplish this is to enter the point of the cylinders by the aid of the glass, when they are easily forced home. The first, in this case, may be apparently as large as the cavity; an instrument forced down by its side prepares the way for another, and so on until it is full. In this case, the cylinder does away with the use of a packing instrument; and even in these cases the filling may be as perfect in adaptation, solidity and finish, as in any other position; and if any fillings need extra perfection, they are those that cannot be seen and examined with facility. The more concealed, the more perfection is required."

Passing over some selected matter, most of which has been before our readers, we come to some remarks, by the editor, on *gutta percha*, or "Slayton's base," as a base for artificial teeth, and from which we make the following extracts:

"Gutta percha may be a humbug in some hands; it certainly will, if men are 'almost blinded in vision' by any very golden hopes or glorious dreams arising from its legitimate use.

"To us it forms a very useful adjunct to practice in artificial work, and instead of a golden harvest for our exchequer, we find that it takes from seventy-five to one hundred dollars from our pocket in almost every case, for we have always charged and received full price for temporary sets, and now we charge only half that price for gutta percha.

"Thus far we are free to say that the use of this substance, as a base for temporary sets, has proved all that has been claimed for it and has afforded us great satisfaction."

Of the editorial, headed "NEW YEAR'S GIFT, (almost,)" as an interested party, we dare not trust ourselves to speak. The *personalities*—individual and collective—which it contains, beside the disposition manifested to *pry into our private affairs, and then publish them to the world*, is too aggravated! an offence to be settled here. We bide our time. Seriously, we consider ourselves "procured" for cream all round.

"*Great Improvement in Dentistry*," by S—— C——." Here is a pamphlet, with the above title, of six printed pages, about *three by four inches*. To review it, would require only enough space to say *bosh*, but we are not inclined to "kill it with faint praise," as it has an importance in being the type of numerous publications of like character, (though scarcely so bald,) in which the writers puff themselves ad libitum.

Another feature is that of adding testimonials from others; the style of one which we find here—also typical—purporting to come from "one of the examining committee on dentistry in the New York Crystal Palace," embodies every thing the "*puffer*" could possibly desire, and is signed with something like the following name—*Dr. Jacobus Mustachio Crowellen*.

We must give one extract, at least, before placing this weighty tome in our cabinet of curiosities.

"In addition to the above, I have also discovered a decided improvement in the administration of ether; it is compounded with another ingredient, which I believe is only practiced by myself, and makes it so harmless, that the most delicate patient may fear no injury or serious consequences."

From the "Dental Advertiser," published by Dr. J. M. Brown, Cincinnati, we make some extracts from a condensed report of the proceedings of the annual meeting of the Mississippi Valley Association of Dental Surgeons, which met on February 20, 1856.

"Item No. 7," (Is gutta percha reliable as a base for artificial teeth? if so, the best method of applying it,) "being next in order, was discussed by Drs. Taylor, Goddard, Bonsall, Ulrey, Taft and others.

"Dr. Taylor remarked, that it had been only a few months since the introduction of this article, gutta percha, in its present improved form, for dental purposes. One of its greatest advantages is its easy adaptation to the mouth—its softness rendering it more comfortable to tender and irritable gums than any metallic plate. Its plastic nature enables us to fit it most accurately to the gums, even should there be a want of perfect fit after the operation is completed.

"He related a case or two, where he had succeeded in under sets of teeth which were worn with comfort, when the irritable condition of the mucous tissue was such as almost forbade the use of either gold or platinum plates.

"In one or two cases he had noticed that the gutta percha did not adhere as closely to the necks of the teeth as desirable; yet, in these cases, he was inclined to believe that the defect was in consequence of bad manipulation. The plate to which the teeth are fastened should be as narrow as the base of the teeth would permit, and spaces should be left between the necks of the teeth for the gutta percha to pass between. When this was duly observed, and the teeth heated, as well

as the gutta percha, the adhesion would be made closer and more perfect. The slight contraction in the gutta percha when cooling, would cause a close fit around the teeth. The best kind of teeth to be used are those for continuous gum work. He remarked that his confidence in its utility increased more and more as he tested its properties.

"There were cases where it was not admissible. These were when the teeth had been just extracted, and the teeth were too short to permit gum to be used. His objections were, that it was difficult to put upon it a fine polish, and the fact that tobacco juice will stain it. He, however, believed that it would be still improved and would meet a want in mechanical dentistry which was very much felt.

"Dr. Goddard remarked that he had used it in several instances, and liked it very much. It set much easier on the gums and adhered better than metal. It was elastic enough to give to the mouth, and was not so easily loosened by masticating.

"He believed that it would still be improved, and answer every purpose for which it is recommended, and become just the thing they wanted.

"Dr. Ulrey had been testing gutta percha for two or three years, and had made several operations with the common gutta percha, and found it to answer very well for temporary work; believed it would last two or three years.

"Since Dr. Slayton has succeeded in giving it a permanent color, he had tried it in two or three cases and liked it better than the continuous gum work of Dr. Allen; the latter having a reflected surface showed an unnatural lustre for gum.

"The gutta percha presented, in this respect, a more natural life-like appearance. He then described the method of using it. Referred to the importance of keeping everything clean, and being careful to have the gutta percha and all dry, when the article is worked in and around the teeth. Spoke of the facility with which it could be trimmed to prevent friction at any point, etc.

"Dr. Bonsall remarked, that he had only as yet used it in one case, and that was within the past week. The lady for whom the operation was made (an upper set) had called that morning and asked if the subject had yet come up before the Society, when he told her that it had not. She remarked, he might say for her that it was everything it was represented to be. She was, so far, well pleased.

"Other members had not as yet had any experience. * * * *

The Calcification of the Permanent Tooth Pulp.—"Dr. Taylor referred to the views presented by Mr. Salter on this subject, and published in the last number of the *Register*. Thinks that the subject is an important one to the Dental Practitioner. The nature of our treatment must depend on our views of disease. Dentine certainly possesses an amount of vitality and circulation sufficient to permit a pretty high state of inflammation, and this was important to be overcome before filling the teeth, or in any case if he wished to preserve them. He referred to the different kind of caries affecting the teeth, and the fact that the pathological condition was different in all.

"Dr. J. Richardson remarked, that as age advances there is a general disposition to depositions of ossific matter, as is evinced in, at times, even the aorta, and that there can be no doubt but at times

there is exalted sensibility in the dentine: this is most particularly observable at the union of the enamel and dentine. He had never seen this satisfactorily accounted for. We might, however, in this as in many other cases, reason from analogy. We had, for instance, the greatest sensibility immediately beneath the cuticle on the cutes vera. The enamel here represented the cuticle possessing little, if any, sensibility.

"Dr. Taft remarked, that as obscure as the subject may be, yet we had some facts which were very plain, and which would guide us in our investigations. The subject was as important to the Dentist as general pathology to the medical practitioner. He alluded to various pathological conditions of the dentine, and gave some of the indications by which we could distinguish between a local and constitutional cause as inducing disease. If the inflammation was seated on a mere spot of exposed dentine, the cause might be regarded as local. If, however, the entire dentine was in a state of inflammation, the cause was apt to be constitutional, and proceed from a general inflammatory action of the system. If the general system is in a febrile condition, the teeth are affected by it. He regards the teeth as having a certain kind of circulation which answers the purposes of the vital economy. They possess absorbent and secretory vessels, and are influenced more or less as the other parts of the system, by disturbing causes, to disease. He referred to the different pathological conditions as manifest in different kinds of caries.

"The subject was further discussed by Drs. Griffith, Horton, Ulrey and others."

We hope to make further extracts from their proceedings when they are published more at length, as we presume they will be, in the next issue of the Dental Register.

SELECTIONS AND ABSTRACTS FROM MEDICAL JOURNALS.

BY S. S. WHITE, D. D. S.

In our last, several errors occurred, in consequence of a press of business preventing a review of the proof.

The following are taken from a very interesting review of M. Roux's work on Reparative Surgery :*

"*Congenital fissures* of the upper lip present so much uniformity, even in their varieties, and the principles of their treatment are so generally agreed on, that it will be needless to follow the author through the nearly ninety pages in which he addresses Mr. Lawrence on this subject. He gives a case in which he operated on a child two days old, and after the apparent failure of the operation, obtained a cure by careful bandaging and changing of the child's nurse. The most interesting observations in the chapter are those on the period which should be selected for the operation, as he thinks it should vary with the character of the deformity. He found operations for hare-lip to succeed best in proportion as the patient was advanced in age, while in those performed during the first few weeks of life he met with as many failures as successes. There is no need to operate early

* British and Foreign Med. Chir. Review, Jan.

on a child with a simple hare-lip, if it can take the breast, nor any advantage in doing so, if the child have, in addition, a fissured palate. The influence of the reunion of the soft parts on the bones, however, should lead us not to postpone beyond the first year of life the operation for a hare-lip which is complicated with a fissure of the palatine vault. With this exception, however, M. Roux counsels that all operations for hare-lip should be put off to the third or fourth year of life. One of his most successful operations was performed on a subject of thirteen years of age. * * * *

“Deformities and Restoration of the Palate.”—The appearance of the volume before us satisfies a long expectation of surgeons. It was known that Roux had performed many operations on the cleft palate, but no statement of the results of his practice had been published for many years. We have now, however, the means of estimating the value of the operation which he had such concern in originating, and, through the courtesy of Mr. Ferguson, of comparing its results with those of the operation as performed on the principle of the latter surgeon. * * * *

“The palate is rarely the seat of actual injury; yet it has occurred to M. Roux *three times* to be under the necessity of slitting the velum palati along its middle, in order to facilitate the extraction of tumors from the pharynx, and twice to have seen cases in which it had been accidentally wounded. A girl of five years of age, fell with the handle of a racket in her mouth. The handle perforated the soft palate, and tore back a small flap, which remained hanging in the mouth behind the opening. M. Roux passed two double threads through the flap, in such a manner that the nooses projected on its buccal surface, and held a twisted roll of oil silk, while the ends, passing up through the perforation, were brought out through the front of the nostril, and fastened just tightly enough to keep the flap applied in its place. Perfect union took place, and the threads were removed in four days. *

“The defects of the palate admitting of operation, which originate in disease, are not all syphilitic. M. Roux is of opinion that strumous disease occasionally issues in the production of fissures of the velum, as well as in perforations both of the velum and vault. Such defects of the palate, from whichever disease they may proceed, are generally less suited for surgical operations than those which are congenital. For the most part, they are attended with some serious loss of substance; and, in the instance of the velum, the soft parts which remain are left by the disease marked with cicatrices, and bound by unnatural adhesion to the pharynx.

“*Perforations of the velum* may present any form, and occupy any situation; but they are all alike in having thin edges. The form best adapted for operations is the vertically oval; and the mode of proceeding must vary with the case. In some instances, when the perforation is situated far back, it may be wise to convert it into a fissure, by slitting through the back of the velum, and to operate as for a fissure, in the ordinary way.

“*Perforations of the vault* admit of cure, if the loss of substance or breadth of the aperture be not too great. In the case of congenital fissures of the whole length of the palate, the union of the velum by operation is followed by a gradual approximation of the sides of the remaining palatine fissure, which ceases when the bones become full

grown and fixed. It is therefore important to wait for some years after uniting the velum, before proceeding to operate for the cleft in the hard palate. Indeed, it is doubtful if it be right to attempt the closure of such fissures by operation. We believe that no surgeon has been satisfied with such an attempt; and Dr. Warren, who first spoke well of it, has since failed so often that he has abandoned the operation. Roux himself scarcely tried it, or at least records no instance of success from the attempt. When, however, such a fissure reaches but a short distance into the bones, and is angular and not arched, there is no necessity to leave an aperture unclosed in front of a united velum. The structure lining the back of the bones can be dissected off them, and made to form a continuous flap on each side with the halves of the velum; the whole can then be brought to the mesial line, and united there on a level below that of the bony palate. Success has followed such operations in the hands of Dr. Warren, Mr. Avery, Mr. Ferguson and others. We may notice, however, in passing, that other operators are not at one with M. Roux as to the facility of separating the soft structures from the palatine vault. Large perforations resulting from disease can only be filled by an artificial substitute. The following are examples of the closure of smaller ones by operation:

“The patient was thirty years of age. It was determined to close the opening by lateral flaps. The fibro-mucus membrane, which lines the hard palate, admits of being easily separated from the bone with the handle of a scalpel, and when separated, presents a considerable amount of flexibility. Advantage was taken of this latter fact to give as much breadth as possible to the pedicle of the flaps; and upon the supposition that the chief supply of arterial blood came to the hard palate from behind, it was arranged to leave them attached posteriorly. Two angular flaps were accordingly cut, which met at their posterior and broader parts, like the two halves of the letter M, and included the aperture in the palate between them. They were then separated from the bone, and brought inward into contact beneath the aperture, which had been previously prepared by incisions, to unite with them. Two ligatures were employed; that near the base of the flaps was tied on their lower surface; but the anterior, having been passed in the opposite direction, was first tied on the upper surface of the flaps, and then fastened by its ends, previously brought out through the palatine aperture and nostril, to a plug beneath the nose. Complete union took place.” (p. 256.)

“The other case is abridged from the operator’s account in the ‘American Journal of the Medical Sciences.’

“It was one of an oval opening in the palatine vault, and the principle of the operation was to cause flaps to glide over the opening, at the same time that they retained their original connexions. The interval between the former and the new position of the flaps was filled, before their transplantation, by granulation. The operation consisted in making an oval incision at some distance around the opening, separating the parts between the incision and the border of the aperture from the bone, and inserting a piece of buckskin to prevent their reunion in their former situation. An oval flap was thus made, encircling, and adherent only at the edge of, the aperture. After a few days, the whole wound had filled with granulations, and the second

part of the operation was undertaken. This consisted in detaching the flaps at their concave border, or from the edge of the opening in the palate: and, while they retained their connexions with the new granulations, bringing them into apposition beneath the opening. It was a tedious proceeding, but was quite successful, and in three weeks the patient was perfectly relieved of every vestige of his deformity. The first oval incision was made at two operations, separated by an interval of six days, as Dr. Mutter feared that the flap might slough if it were deprived of so much of its former connexions at one moment.'

"*Fissures of the velum* originating in disease may occasionally call for operation. Of four such cases which were treated by M. Roux, two occurred in public male singers, who sought his aid, partly because of an alteration in the tone of their voices, both in speaking and singing, but chiefly on account of the loss of some of the higher notes of their diatonic scale, which, though they could be uttered, were feeble and, as it were, broken. The loss of substance was in both cases of syphilitic origin, and situated at one side of the velum; and the operation consisted in uniting the loose velum to the posterior pillar of the fauces. Complete union was not obtained in either case, and the defect of the voice, which still remained more marked in singing than in speaking, was in neither case relieved enough for the patients to renew their public avocations in the capital.

"*Congenital fissures of the velum and vault* are always seated in the mesial line. Except in a very few cases, in which the vault alone is cloven, the uvula is always involved, and fissures differ from one another only in their extent forward. The alveolus, however, never splits in the mesial line. There is nothing in the cry of an infant by which the existence of the cleft can be distinguished, or in some sounds of the voice of the adult; but they occasion a nasal tone, a difficulty in the pronunciation of certain consonants, and an alteration of the voice in singing. Some of its consequences may be overcome without an operation; the return of an infant's food through the nostrils, for instance, can be prevented by placing the child erect whilst sucking, or by introducing the food into the pharynx with a long tube. The nasal tones are often at once removed by the closure of the fissure; but the articulation can only be perfected by a sufficient practice of the renovated organ. Amongst the many other and curious consequences of the defect, the most important is its influence upon the education of the child and youth; and it is one which calls for the early performance of the operation, for such persons, as they study ill and are easily discouraged, do but rarely complete their education.

"The state of the parts presents much variety in different cases. They exhibit all degrees of thickness, and are often unequal in this respect on the two sides. In one case, that of a young lady of twenty-two, the uvula only was fissured, yet the voice had a disagreeable tone, and the pronunciation was imperfect. But on looking just above the angle of the fissure, the velum was seen to be so much reduced in thickness as to appear composed of only its mucous layers, or of a thin single layer of nearly transparent membrane. The thin piece was in the mesial line, of the shape of a lozenge, and about as large as the nail of the middle finger, and it seemed probable that the inequality of the palate arising from this attenuation of one portion, had some effect

in producing the fault in the voice and pronunciation. Those whose palates are fissured, usually have the face of large size; and the wide mouth and alveolar arches, which the size of the face implies, facilitate the necessary manœuvres in the operation.

“In selecting the period of life at which the operation should be performed, the author states that, while not necessarily serious to the patient in itself, yet it involves a long continued abstinence from food, which is most detrimental to healing wounds in young subjects; so that though some young persons may be found possessing an amount of fortitude not natural at their years, yet the regimen, after the operation, almost necessarily insures its failure in young subjects. It has indeed been performed on a child four months old; and although it failed, of course, the surgeon has only half repented of his hardihood. M. Roux has failed thrice at fifteen years; and he thinks it unwise to operate before eighteen. * * * * *

“The whole of M. Roux’s operations on the palate number a hundred and thirty-nine, and may be divided into the two principal heads, perforations and fissures. Three out of four operations for closing syphilitic perforations of the vault succeeded, and four out of five perforations of the velum. * * * * *

“By ‘success’ in this report, is not to be understood an immediate and entire union of the whole fissure. * * * * *

“Three cases are reported as having terminated fatally. One of these was that of a young lady of fifteen, who was about to quit Paris after a very successful operation; but fifteen days after the operation symptoms presented themselves which soon assumed the plain appearance of pulmonary phthisis, and destroyed life in less than three months. The second patient was a young woman of twenty-two, in whom every thing promised a successful issue to the operation, but no union took place; inflammation of the palate, of the pharynx, of the whole pulmonary mucous membrane took place, and terminated her life on the eighteenth day after the operation. The third instance was that of a young man, whose death M. Roux attributes entirely to his mental state. He appears to have been constantly harrassed with the painful consciousness that he was subjecting himself to the operation in opposition to the known wishes of his parent. Without physical symptoms which could explain his death, he sank on the fifth day after the operation. There had been no union. The body was not examined.

“The various rumors and partial statements which have been current respecting the results of M. Roux’s practice of his operation of staphyloraphy, had prepared most surgeons for a less satisfactory account of them. A success in two-thirds of the cases, however, may be looked on as satisfactory, if we remember that for many years the alternative was to leave these patients unrelieved by art. The deaths were not ‘numerous,’ as had been stated; there were three: and out of the remaining one hundred and twelve cases, seventy-seven were successful. But the author acknowledges to have seen, during the London Exhibition in 1851, the preparation upon which Mr. Ferguson’s proceeding of dividing the muscles was founded; and it seems to us a matter of regret that he should, since then, have retained so inflexible an attachment to his own mode of operating, and should have, practically, sanctioned no other in his book. For what is the result of

the English operation? The chief causes of failure are removed by it. Patients can swallow fluid food, and escape the terrible regimen of starvation and forced quiet of the throat which Roux enjoined. The flaps come together without strain. The ligatures not being dragged by the spasms of the muscles, do not cut through the tissue, and make perforations which require to be closed by the actual cautery; they may, consequently, be left for a much longer time than that stated by M. Roux, and instead of their removal being indispensable on the fourth day, the last has occasionally been left as late as the seventh. The probability of success is plainly enhanced to a great degree by such delay, and the singular circumstance which occurred in the practice of Mr. Skey may not unfrequently occur again.

“ ‘ Mr. Skey, not long since, operated for fissure of the soft palate. The edges of the wounds sloughed and retracted, and the case seemed nearly hopeless; but he kept in the sutures, and granulations sprang up from the edges of the cleft, after the separation of the sloughs; they met in the mid-space of the cleft, and coalesced, and formed a perfect star.’* ”

“ The treatment under which this success was obtained is detailed by Mr. Skey in his work ‘ On Operative Surgery; ’ it consisted of an abundance of strong fluid nourishment, half an ounce of the compound tincture of bark daily, and the topical use of a solution of the nitrate of silver. * * * * *

“ Such great success as that which we are able to record as attending the operation so happily suggested by M. Roux, and improved by the scientific edition of Mr. Ferguson, leaves little to be done in order to secure its perfection. Yet a new era seems to open in the treatment of some of these cases; for there is a prospect of the operation of staphyloraphy, perfect as it is, being in certain cases anticipated by the use of the actual cautery.

“ The power of contraction possessed by the cicatrices of burnt parts has long led to the employment of caustics in the treatment of diseases. Various unnatural openings in soft parts have been closed by them, and fistulæ contracted or cured. We have ourselves succeeded by the use of the actual cautery in curing the incontinence of urine left in a young woman, two years after she had undergone the operation of lithotomy. The urethra, which permitted incessant incontinence in any posture, and admitted half the forefinger, was in a few weeks so contracted by the treatment, that she was able to walk for two hours without incontinence or inconvenience. Its chief use in the palate has hitherto been to close the smaller perforations of the velum. M. Montain, of Lyons, many years ago, applied it to the adjoining surfaces of the two halves of a fissured palatine vault in an infant, after having brought them into contact in the mesial line by lateral compression; and he is said to have succeeded in procuring their adhesion. M. Jules Cloquet, however, has carried the practice further, and has applied it to the treatment of cases of fissured velum. His assertion is, that the two halves of the velum can be brought into complete union along the mesial line, as an arm and the trunk, or two adjoining fingers, are fixed after a burn by a web of skin drawn towards the angle which unites them; and on this principle he makes repeated

applications of cauterizing agents at the angle only of the fissure. He states that some twenty such operations suffice to close a fissured velum by a linear cicatrix in the mesial line, and to restore its functions in deglutition and speaking. Whether its use is restored in singing is not stated. The plan is applicable also to the lateral syphilitic fissures, but the least extension of any fissure forward into the bony vault necessarily precludes this mode of treatment, as there can be no cohesion of the first angle, or, consequently, of all the rest. The plan has not been enough tried to allow a fair comparison of its results with those of the operation by incision and suture. But the proposal is a rational one; it has succeeded; and the proceeding is so simple, especially if the electro-galvanic cautery be employed, that there appears little doubt of its superseding, in suitable cases, the painful and tedious operation of staphyloraphy. Its chief advantage, however, is that it may be applied in infancy, and that the evils which arise from the existence of a cloven palate during the important years of education may be obviated. The proposal is quite a new one, and needs the reports of additional observers to its uniform results."

Proceedings of the Buffalo Medical Association.—The Buffalo Medical Journal contains the following, among other matters of interest:

"Dr. Nott reported a peculiar case of erysipelas. A Welchman, aged 23, of robust habit, a farmer, had noticed that his teeth were loose (the incisors of the lower jaw) for three days previous to that on which Dr. Nott was called. During this time he had continued to labor. Dr. N. found that he had had diarrhœa the day before, that the teeth of the lower jaw, on the right side, were loose, with a sanious pus issuing from the gums. There was not much swelling of the throat internally or externally. On the second day he was delirious, the swelling had extended to the upper jaw and roof of the mouth, and the sanious discharge continued. On the third day of the attendance, Dr. Rochester was called in consultation. He was at this time comatose, had tenderness of the epigastrium, vomiting, and typhoid symptoms generally. His articulation was indistinct, and a fetid sanies discharged from his mouth. From this time he continued to improve for a few days. Dr. Nott saw him Nov. 6th, at 2, P. M. He was then sitting up, his teeth were firmer in their sockets, but he had still some difficulty in swallowing; at 9, P. M., of the same day, a noise was heard in his room, and on entering it he was found dead. There was some œdema of the face.*

"Dr. Gray reported a similar case of a boy aged eight years, who had been sick for three or four days when Dr. G. was called. Found him with a swelling of the chin and lower jaw of a shining white appearance. Next morning he had excessive pain in the chin, with a very offensive sanious discharge from the gums, which were swollen and spongy, and the four incisor teeth were loose. The patient was cachectic, had been feeble for three or four weeks, the pulse was feeble and frequent, the nails were crumbly, one-half of the nail being gone on two or three of the fingers. He recovered under a tonic and anodyne treatment, with the local use of chloride of soda. * * *

* QUERY.—œdema glottidis?—Sec.

"Dr. Wilcox related a case of a young man, a brass-founder, whose occupation was burnishing and silvering bells, who had ulceration of the nostrils with epistaxis, and had become quite exsanguine. Attributing the disease to his occupation, he was directed to discontinue work, and take quinine and iron. Last Sunday he presented himself supposing that he was salivated. His incisor teeth of the lower jaw were loose, and there was a sanious discharge from the gums. This seems to have been corrected by the local application of tr. myrrhæ. The case would not have attracted his attention particularly, were it not for the analogous cases reported by Drs. Nott and Gray."

The American Journal of Medical Sciences, for January, 1856, contains an account by Dr. Sawyer, of California, of a case of fracture of the inferior maxillary, and other bones, with extensive injuries, from which the man ultimately recovered. For the fracture of the jaw, Dr. S. invented a new apparatus, to keep the parts in apposition, a drawing of which is given. The report of treatment is too long for our columns, though, in many respects, interesting, affording "an example of the wonderful tenacity of the vital principle sometimes manifested."

"A vigorous, muscular man, was at work, July 15, 1854, on a piling machine, which was carelessly overturned while he was near the top, and he fell with it to the ground, a distance of forty-five feet. The iron hammer of the machine, weighing one thousand pounds, was at the time elevated, which, of course, precipitated his descent with the most fearful violence. I saw the patient a few minutes after his fall, and, on examination, found that he had received the following injuries: The body of the lower jaw on the right side, near the symphysis, was extensively comminuted; a large triangular fragment of the maxilla was projecting through a lacerated wound of the integument externally and beneath. A piece of bone above, containing the right canine, and adjoining incisor teeth, was lost at the time the accident occurred. The left angle of the jaw was also fractured, but the separation of the fragments was incomplete. The extensive bruising of the left side of the head and trunk, indicated that the force of the blow had been received on this part of the body, and, as far as the maxilla was concerned, was transmitted to the opposite side, where the comminution existed, on the principle of the arch. The face was frightfully distorted, the chin being greatly displaced to the right side. The cartilages of the larynx were fractured and separated, the right overriding its fellow. On the left side, the great cornu of the os hyoides could be felt loose and detached from the body of the bone. The neck was much infiltrated with air and serum, and subcutaneous crackling was indicated to the touch over the upper portion of the chest and back. The right radius was broken transversely about three-quarters of an inch above the wrist, the lower fragment being split longitudinally into the cavity of the joint itself. The left patella was much comminuted, the detached fragments of which could be felt and moved about, beneath the integument."

THE DENTAL NEWS LETTER.

VOL. IX.

PHILADELPHIA, JULY, 1856.

No. 4.

AN ESSAY

On the Sensibility of Dentine and its Treatment, read before the Pennsylvania Association of Dental Surgeons, December 12, 1855.

BY J. D. WHITE.

MR. PRESIDENT AND GENTLEMEN:—It has been a long time since I have had the honor of appearing before you in the capacity of an essayist, and with an eye ever directed to the investigation and discussion of practical subjects as best suited to our society gatherings, I have selected for the subject of a short essay, the Sensibility and Treatment of Dentine. The tubular structure of this substance renders it extremely difficult to manage its treatment for sensibility with such exactness as at all times to enable us to hold the treatment within such bounds as to obtain the most satisfactory results. Again, the conditions of the case, as to whether it is deep-seated or superficial decay, or in a younger or older tooth, or of a peculiar impressibility of the organ to the different substances employed for the purpose of treatment, it is necessary that great caution should be exercised, and a long experience enjoyed in practice, to insure invariable and successful results. It is doubtless out of these causes that so great a diversity of opinion grows as to the best course of treatment to pursue, or if any remedial means be employed or not. The different views advanced when this subject was under discussion before the late American Convention of Dentists, held in this city, fully establishes this fact. That there is an exquisite sensibility of dentine, daily experience shows: yet it is not universal, as some teeth can be cut with an instrument without exciting apparent suffering. And yet those teeth seem to possess a vital and healthy condition, and an internal pulp similar to those of a sensitive character. And again, there are different degrees of sensibility, varying from the bearable to the unbearable. This state of things does not admit of ready explanation, as it would seem to be rational that similar organs or tissues in health, would be endowed with analogous functions, and be impressed by similar stimu-

lants. We do not seem to be capable, by practical tests, to push this peculiar condition of dentine to a different cause, although it seems fair to presume that it is invariably due to the irritation of nervous fibre. The same patient does not at all times suffer the same degree of pain of the teeth, by the friction of the instruments of the dentist, or by taking acid substances into the mouth; nor do all the teeth in the same mouth, or in the same state of decay, possess the same sensibility. This diversity of condition, and uncertainty of treatment, perplexes the impatient operator and causes him to abandon any attempt at treatment by medicaments, and imposes the whole burden of success consequent upon the treatment of those sensitive organs, to the endurance of the suffering patient. An ingenious theory, advanced by Dr. Goddard of our city is, that the sensibility of dentine is due to *concussion*, the fluids contained in the tubuli of the dentine being given off by, and resting upon the investing and sensitive membrane of the pulp, become disturbed by friction passing over their outer extremities, is transmitted to the surface of the pulp and induces pain. This theory would seem, by many cases, to gain some force, from the fact, that if we attempt to excavate a tooth when the cavity is very wet, it is more painful than when it is dry. The friction of the excavator tends to dry the cavity, and if we cease cutting when the operation is but half accomplished and the fluids of the mouth are permitted to pass in, it will be found to have taken an increased sensibility. Hence, a number of cases may be successfully treated by observing the precaution of keeping the cavity dry. This may possibly be explained, however, by the probability that the nerves in the tissue are in a more impressible or normal condition, while wet, than when dry. And again, the nerves when cut off when dry may contract and constantly keep retreating below the surface and keep out of the way of the instrument until the cavity is prepared. It is difficult to understand how every case that is met with can be explained, however, by either of the above named processes, or without admitting the actual presence of nervous tissue, but by being of such extreme delicacy as to be exceedingly transient and to be modified by such varying and undefinable conditions as to evade the scrutiny of the observer as to what the modified conditions are actually due. At one time of life this tenderness of the teeth may be extreme, and may disappear for a term of many years, and reappear as before. A case of this kind came under our notice about fourteen years ago. A gentleman of about forty years of age applied to us for advice, suffering from extreme sensibility of the necks of all his teeth; the cavities of decay were unusuall

tender, and contained a humid character of decay. The health of the patient was delicate from intense application to business. His former dentist had abandoned his teeth and informed him that he would inevitably lose them all. We treated a number of his teeth for this tenderness. The patient visited a southern climate for several winters for his health, which improved, and the tenderness left his teeth entirely, and they ceased decaying for a number of years, except forming a few cavities on the approximal surfaces, but which could always be operated on without pain. This condition lasted for about ten years, when the tenderness of the teeth returned, and with it a rapid process of decay. The old surfaces are softening, and the slightest exposure of new surfaces developes the extreme sensibility of their former condition. This case would favor the inference that the sensibility depended for its sensible development more upon the condition of the impressibility of the nervous system of the patient, than upon the presence or absence of nerves.

Escharotics, which act upon the animal tissues of other parts of the body, are more successful in treating this condition of dentine than sedatives. Opium or morphia may be applied for a long time without producing any sensible result, therefore *arsenious acid*, *caustic potash*, *lunar caustic*, *nitric acid* and *chloride of zinc*, as well as the *actual cautery* have in turn been freely employed. Among those substances arsenious acid is the most potent, reliable and painless where it can be employed with safety, such as in superficial cavities. But it is imprudent to apply it to a cavity that nearly reaches the pulp, or where it cannot be seen by the operator in from twelve to eighteen hours, as it will permeate any thickness of dentine if left on the part for a longer time, and produce inflammation of the nervous pulp. We prefer to apply it dry on cotton, or, if the cavity is very shallow and on the labial surfaces of the teeth, then we apply a portion of it in powder to the part, and spread over it a thin coating of white wax; or, where that cannot be done, we place over the part a lock of dry cotton-wool and throw a ligature around the tooth and secure it in that manner at least until the cavity can be excavated sufficiently to secure with wax or cotton. It is not safe to apply the arsenic until the sensibility is totally gone, as it will be found after a time that the parts have absorbed too much, and the pulp will become inflamed a few days after the operation is considered to have been perfect. It frequently happens that when the protection to the arsenic has been removed, that the sensibility has not been much altered. In such a case let the cavity be exposed a while to the air and fluids of the

mouth, and it will be found to have changed sufficiently to allow of easy excavation. Some times, when operating on the front teeth, we wait a few days, leaving the cavity open, in order to make sure that too much shall not be applied. It often happens, too, that after a partial suspension of sensibility has been effected by the arsenic, that the chloride of zinc will finish the matter without exciting so much pain as if it had been employed at first. It is an error to apply arsenic combined with creosote, because the creosote is absorbed readily by the dentine, and without destroying the sensibility of the surface, especially if a small quantity be applied frequently, sufficient may be absorbed to inflame the pulp or irritate it and place the whole tooth in such a highly sensitive condition to heat and cold and to the touch, as to render it impossible for the tooth to be operated upon. If, under such circumstances, the tooth should redden in color, it should be drilled open and left without applying any thing until it had entirely recovered its normal sensibility; a neglect of this precaution even in treating the exposed pulp, when one application does not destroy its vitality, renders the use of the arsenic an objectionable substance in our operations. When excavating a cavity after applying arsenic, we do not feel safe until we cut down sufficiently to impinge upon a sensitive surface, for fear that we have left enough arsenic in the dentine below our plug to inflame the pulp when it approaches that substance. It might be said why employ a substance so dangerous in its tendency, and by which a tooth, by the slightest circumstance or uncertainty in using it, may be lost, or, at least, endanger the loss of its pulp? We would answer, that we believe that more teeth are lost, and more pulps exposed by defective plugging, consequent upon a too sensitive condition of the organ to be properly plugged, than by injudiciousness in the use of arsenic. We have been told this day by two patients that they never could keep plugs in their teeth until the nerves became exposed, on account of the fact that they could not bear the operation of properly cleansing a plugging, and we are now treating four front cavities that have been plugged frequently by a distinguished dentist, which the plugs would not stay because the cavities could not be shaped to hold them, on account of too great a sensibility of the part. Teeth are frequently found to be too sensitive between, to be filed or chewed upon, or be picked out or kept free from foreign substances; we treat these cases with arsenic to great advantage. Chloride of zinc, we think, takes the place of either of the other substances named. Where this will not act, neither of the other substances will. It will not blacken the teeth as the nitrate of silver, nor is it as irritable to the

gums and mouth generally as the nitric acid or the caustic potash. In some teeth this substance acts like a charm and only by exciting a slight pungent or warm kind of pain. We gave the history of some cases of this kind, where it proved invaluable, in the *News Letter* of October, 1854. Yet in some teeth it excites the most intense pain, without obtunding the tenderness of the parts in the slightest degree. We never employ the chloride of zinc for destroying the exposed nervous pulp, as has been inadvertently reported of us in the *American Journal of Dental Science*, July, 1855. But that we have used it for many years with advantage in the treatment of sensitive dentine is certain, and of which we have spoken elsewhere, and therefore think it needless to consider the subject any further at this time.

For the *Dental News Letter*.

AN IMPROVED METHOD OF USING GOLD FOIL.

BY PROF. ARTHUR.

It is now somewhat more than a year since I called the attention of the profession to what I deemed a new method of using gold foil for filling teeth. The method proposed was to roll up the foil, very loosely, in the form of a rope, pass it quickly through the flame of a spirit lamp, cut it up into small pieces, and pack it into the cavity to be filled, with sharply serrated instruments, condensing each piece as it is put into place. The object of heating the foil, as I stated, is to give it a quality of adhesiveness not possessed at the time of using, before it is heated, and so affecting its condition, that each piece put into the cavity is made to adhere, closely, to the portions preceding it, although these may have been thoroughly condensed. It was not, as I stated in the article referred to, simply the annealing the gold, at the time of using, that I supposed to be new, as this I knew had been done many years before, but, in addition to this, of condensing it thoroughly in small portions, with sharply serrated instruments. I found great advantages from its use in this way, and simply wished to place other operators on the same track I was pursuing myself.

It was immediately declared by a number of members of the profession, that there was nothing new in the method proposed, that it had been adopted and followed by them years before the appearance of my article. Now, I do not mean to question the sincerity of these gentlemen, some of whom occupy high places as operators of skill and integrity, but I am, nevertheless, convinced that I could not have been fully understood by them, for I am well satisfied, from the known character for liberality of some of the gentlemen referred to, that if they

had used gold foil in this way with the same advantageous results that I have found, they would, long ago, have communicated it to the profession. I could not, of course, suspect them of having availed themselves of its great advantages, and of designedly, during a period when there was the freest interchange of ideas between liberal members of the profession, withholding this valuable mode of operating from their fellow practitioners. I can only come to the conclusion, then, that I have not been clearly understood, and in several instances, a personal interview with some of these gentlemen, has proved this to be the case.

There is, indeed, another view to be taken of the matter, it is this: The modes of practice, and the capabilities of different operators, differ so very widely that one may find that he can accomplish with gold foil, as it comes from the manufacturer, what another would not attempt, so dim would be his prospect of success. I am free to confess, that I have in years past seen many operations with gold foil, used in the ordinary way, superior to any of the results I have been able to reach with all the labor and time I have been willing to bestow—and I have never been sparing in these essentials of good dental operations. Why it was so, or what was the difference in their methods of manipulation and mine, I have never, in conversation, or in any other way, been able to discover. It is more than probable that this superiority consists in those undefinable qualities which nature gives to some men, enabling them with ease to bring into actual existence the ideals in their own minds; that remarkably prompt and harmonious sympathy between the mind and the hands which is never acquired, if it is not born with the individual. I am quite willing to acknowledge, that with this facility I am endowed in but a limited degree, and that all the good results I have reached, if any, in my profession, has been by hard, patient labor; in the face of this serious natural disability. It may be, then, and it probably has been, lack of skill as an operator which has rendered me dissatisfied with the appliances of our profession, as I found them, and to have led me into the habit of looking anxiously about for the means of getting rid of the difficulties by which I found myself surrounded. For my own use, as I have repeatedly stated, I found the best gold foil defective. I desired something which would better supply my wants. In looking around me I found a great many honest and faithful fellow practitioners in the same category with myself. My earnest desire and effort then was, to find some material which would give better results with less skill, even if it should demand

more time and labor. It was with this feeling that I eagerly took hold of sponge gold, as it gave promise of enabling us to get over some of the most perplexing difficulties attending the use of gold. With the same feelings I have turned to the use of gold in the manner I have proposed as a still further advance in the same direction. I have no hesitation in saying that I can obtain better results in the use of either of these materials, in filling teeth, than I can with gold foil as commonly used, possibly at the expense of more time. But I am not at all surprised that gentlemen who can accomplish by the aid of superior skill, with the common material, what I do with greater labor and less skill, should feel no desire to adopt a new method which affords them no advantages. I cannot hope, then, to be of use to these gentlemen, but I feel well satisfied that I may be to that somewhat numerous class of dentists, who, like myself, need all the possible aids to good practice with which they can be furnished. And, whether the system I propose is really new or old, it has certainly never, hitherto, been formally brought to the notice of the profession.

Since the article referred to was published, I have used gold foil in the manner proposed, exclusively, and so have a number of others, with the most beautiful results, and with daily increasing satisfaction.

I have found that it is not necessary to raise the temperature of the foil to a red heat, so that the term, annealed gold, is rather a misnomer. It is no more annealed gold after it is exposed to the slight degree of heat necessary, than it was before; but, for want of a better name, it may probably be well to distinguish it by the name which has appeared to attach itself to it.

It must be premised that all gold foil will not answer for use in the manner proposed. The slight heating to which it is necessary to subject it, does not produce any change in the character of the gold itself. It can only restore it to its original condition. If it is not adhesive after it is annealed by the manufacturers, it will not become so by any degree of heat to which it may afterwards be subjected.

Now, it has been the object of the best manufacturers of gold foil to get rid of the tendency of gold to assume this adhesive character in the course of manufacture. This is accomplished by some means not generally known. It occurs to me, however, that efforts of this kind have, to some extent, been wasted, as by exposure to the air, gold foil, which is very adhesive at the time it leaves the manufacturer, will lose this quality entirely.

How this occurs is a question of interest. It is, of course, well

known, that gold and other metals become so changed when hammered, as to lose, in a very great measure, their malleability and ductility. But, when exposed to a red heat, such a change is produced in the relations of the particles composing the metal, that its lost properties of malleability and ductility are entirely restored; this application of heat is called annealing.

Experience has shown that although some change in the relations of the particles of which metals are composed, is produced by hammering, or a process analagous thereto, and this change renders the most ductile metal exceedingly brittle, it does not seem that any such change takes place from simple exposure to the atmosphere.

It is found that a slight degree of heat is sufficient to restore the adhesive properties of the surface of gold foil which originally possessed this quality.

If a piece of gold foil, originally adhesive, which has been exposed to the atmosphere for a few days, be rolled up, loosely, into a rope and cut into small pieces, it will be found that these pieces may be shaken together without adhering to each other. But, if they are laid upon a sheet of thin metal and held for a few minutes over the flame of a lamp, or heated slightly in any other way, the pieces, by their own weight, will adhere to each other so closely as to be separated with difficulty.

Now, it is clear in this case, that the foil by simple exposure to contact with the air, does not undergo any change analagous to that produced in the metal by hammering. It does not require annealing to restore it to its original condition, but the application of a slight degree of heat, not enough, as already intimated, to produce a change in the relations of the particles of which it is composed. But this statement has been questioned; it is supposed, as I have heard it urged, that the thin plate of metal composing the foil, is likely to undergo a change similar to that produced in a larger piece by hammering, simply by handling, and the pressure to which it becomes accidentally subject. But if these very same pellets, which have become so adhesive under the influence of slight heat, are separated and allowed to remain until the next day, all their adhesive properties will be gone, and no ordinary pressure will make them unite. If they are again heated, as directed above, they again become as adhesive as before.

A change, then, appears to have taken place upon the surface of the metal. What is this change?

Some years ago, while making a series of experiments in electro-

metallurgy, I found that the galvanic deposit could not be made to adhere to a metallic plate, which had been exposed to the air for twenty-four hours; but this plate, if warmed, was at once so changed in condition, as readily to receive the metallic deposit, which adhered to it. Indeed this was one of the means proposed to prevent the adhesion of a metallic deposit, when it was desired to take a metallic copy of a certain thing.

In Smee's "Electro-Metallurgy," (pp. 109 and 18, English ed., 1851,) this fact is attempted to be accounted for by supposing that a film of atmospheric air is deposited on the surface of the plate, and that this is dissipated by the application of heat. Whether this theory is correct or not, it seems evident that it is the surface only that is affected.

It is evident, then, that gold to be used advantageously in this way, must, when first made, be adhesive. And this, unquestionably, is the reason of the great differences to be observed in gold of different manufacturers, when attempted to be used in this way. I have tried some foil, unquestionable pure and good, which could not be worked in this way at all, and other specimens which could be used with very trifling advantage.

The foil I first used in this way, is that sold by Jones, White & McCurdy. It worked better than any I had then met with, and I still find it, in use, as good as any other. Some specimens of Morgan's gold were then put into my hands, prepared to be used in this way; it worked equally well with that mentioned above. Abbey & Son prepared, at my suggestion, some foil to be used in this way, and it possesses the same fine quality. Their customers, who feel disposed to try the use of foil in the way I am describing, will find it necessary to state that fact when they order, as his gold, sold for ordinary use, does not possess the necessary adhesiveness.

I have not tried, to any extent, the gold of any other manufacturer, although I am assured by all that there is no difficulty in making gold as adhesive as can be desired.

In order to use gold successfully in this way, everything depends upon the instruments employed and the manner of manipulation. The instruments are simple and easily made, and the manipulations are not difficult. All that is necessary is strict attention to certain essential points.

In the first place the gold must possess the quality I have described, and I would advise any operator who is disposed to make trial of gold

in this way, to procure gold of one of the manufacturers named above, stating the purpose for which it is wanted.

There are two methods in which gold may be prepared for use in the manner proposed. It may either be used in the form of pieces cut from a rope, or the sheet may be cut up or torn into small pieces, without folding or rolling it up.

1. In preparing the pellets, the sheet of No. 6 foil should be cut into strips according to the size of the cavity. No definite directions can be given upon this point, as experience alone can teach an operator how much he may want for a particular cavity. I generally cut my sheet into three strips. These strips should be rolled up loosely, *as loosely as possible*, laid upon a thin piece of platinum or other thin metallic plate, and heated over the spirit lamp. The degree of heat is unimportant, if continued long enough, but it will be sufficient if the platinum is allowed, directly under the rope of gold, to reach a dull red heat. The roll is then cut up into pieces of a suitable size. The direction to roll the strip up loosely is important, as many persons who have attempted to use gold in this way, have failed because they have rolled it too tightly.

The instruments used for this gold should terminate in two or more sharp points. The most convenient for general use are those made with two, three and four points.

The curve given to the shank of the instruments must, of course, be determined by the operator, to suit the special case.

The points must be sharp; they cannot be made so without a suitable file, and the best file for the purpose is that known to watchmakers as a pivot file. It has a sharp, knife edge, and is admirably adapted to the purpose.

The temper given to these instruments must be somewhat harder than that of ordinary plugging instruments, a little harder than a spring temper. It is difficult to state in writing the exact temper to be given; this can best be ascertained by a few trials. The instruments should be as hard as they can be made without rendering them so brittle as to break with necessary use.

In using gold in this form, the greatest difficulty to be encountered is to fix the pieces first put into the cavity; after a part of the filling becomes firmly fixed in any part of the cavity the rest of the operation is very easy. I have, for a long time, been accustomed to hold a small instrument in my left hand, and with it keep in place my first pieces of gold until they become fixed. Sometimes, however, this is extremely difficult, and, at times, impossible. Dr. Louis Jack, sug-

gested a very useful way of getting over the difficulty referred to. He proposed to drill two small holes about a twelfth of an inch deep in a part of the cavity where there is no danger of reaching the pulp, begin his operation at this point, as there is no difficulty in getting the gold to remain in such small cavities, and build the filling up from these two points.

After the first pieces are fixed, pellet after pellet is taken up with the point of the instrument used, carried to the desired place, fixed by pressure against the gold previously put into the cavity, and condensed, first with large and then with small instruments, taking care to carry it against the sides of the cavity. Thus going on, adding piece after piece, until the cavity is filled.

It is essential, in using gold in the manner proposed, that the cavity should be kept dry; if the slightest quantity of moisture finds its way upon the surface of the filling, the operation for the time is at an end. I have seen cases where an apparently good filling has been made under the saliva; but I cannot regard such a filling as so secure and reliable as when no moisture interposes itself between the layers. If in performing a long operation it is found that the saliva is encroaching upon your filling, burnish the surface, which, if you have manipulated properly, ought to be condensed. Allow your patient to void his mouth of saliva, and then recommence your operation. Dry the filling and the parts near it, then scrape the surface so as to remove any moisture which may have become confined about the surface. More gold may then be added, as well as if no moisture had reached the filling; and so, more and more may be added, until a satisfactory filling is made.

2. I prefer, however, to use gold, not in the form of pellets, but the single sheet, neither folded nor rolled, but cut or torn into pieces of suitable size, after the sheet has been heated on a piece of platinum or any other kind of thin metal plate.

The instruments in this case differ from those just described. They should have a somewhat broader surface, cut with as many points as can be got upon it. The serrations should not be so deep as in the instruments for pellets. I have some instruments with eight, ten, twenty and forty points.

After the gold is heated I generally hold it in a pair of spring forceps, as it should not be touched with the fingers, and tear it in pieces of a suitable size with a sharp instrument. As I am not now writing for novices in the profession it is unnecessary to go into detail;

every operator will soon learn, by experience, what size his pieces will need to be for any cavity in hand.

After drying the mouth, the cavity, and the parts about the tooth to be filled, with great care, a piece of the gold is carried into the cavity. If I can hold it in place until I can fix a sufficient quantity to make a beginning for my filling, I prefer to do so. If I cannot conveniently do this, I adopt the method, where I can, of Dr. Jack, mentioned above. After the gold becomes fixed in any part of the cavity, the rest of the operation is easy. The thin pieces of gold are taken up and condensed thoroughly in thin layers with the broad, sharply serrated instruments, the operator being careful not to gather any considerable quantity under his instrument while he is condensing his gold. Care must be taken, too, to carry the gold against the sides of the cavity as the filling progresses. The rapidity with which a large and accessible cavity may be filled, when the gold is used in the manner described is surprising. But when the cavity is filled, using ordinary pressure with the instruments described, the gold will be found so dense as to be unyielding under small and sharp instruments. The reason of this is easily seen; the condensation of the gold in thin layers has been effected, and it is easy to understand how a few thin layers of gold over a broad surface, may be brought as compactly together with comparatively slight force, as a large number of layers such as are to be found in a pellet, with much greater force and with much smaller instruments.

I have been in the habit of using No. 6 in my operations. In thin, frail cavities, No. 4. No. 8 has been proposed by Prof. Townsend, and no doubt will facilitate the operation in large cavities by using it in a single strip.

I am well aware of the difficulty of describing, in a manner to be clearly understood, any method of manipulating. A few demonstrations will do more to elucidate a practical subject than pages of explanation. I should suppose, however, that the suggestions I have made, vague as they may be, will enable any experienced operator to ascertain for himself the amount of value of the method of operating which I have been describing.

In this vicinity a number of operators have adopted this method with so much satisfaction and success, that they declare they could not fill the cavity of a tooth, at all satisfactorily to themselves, in the manner they had been operating for years before. I have seen first class operations from the hands of men who had had no experience in our profession—such operations as certainly could

not have been performed, in the usual way, except after years of practice.

I feel impelled to urge, strongly, every one in the profession to give this method a fair and thorough trial, and I am satisfied that when once understood, it will be generally adopted, to the almost entire exclusion of other methods of using gold foil. I have never yet known an operator, after he has once become fully aware of its advantages, who has abandoned its use.

For the Dental News Letter.

ON LINING TEETH.

PROF. J. D. WHITE:—*Dear Sir*—I have been favored for some time with your valuable “News Letter,” and often find myself much benefited by some of its contents. I have often thought of expressing my sentiments on subjects relative to our profession through your paper; but, feeling a delicacy as to my competency to do any good, I have deferred until now. Possibly what I now propose to offer as an improvement may be an old thing with many of the dentists of the east, but I am satisfied that it is not in general use.

I will here give you, briefly, my mode of backing teeth. I prepare the work in the usual way, and when ready to fit on the backings, I take platina plate, rolled as thin as letter paper, cut out of this enough to cover the face of the tooth, and fit on as with gold; then withdraw the teeth, (after preparing them all in the same way,) draw the points of the rivets together, and file them almost on a level with the lining. I then set them up in plaster and sand separately; after properly dried, I take small scraps of gold plate, enough, guessing at the quantity, to make a heavy backing, and melt them thoroughly on the platina linings; this makes it adhere firmly to the tooth; then, next in order, is to dress it up with a file, leaving a heavy pure gold backing, ready to set back in the plaster and solder to the plate; it requires but little solder to unite the teeth to the plate, and when accurately done requires but little filing to fit it for the lathe. I experimented on several teeth in this way, breaking them after putting up backings, and found the gold to flow under the platina lining and imbed itself into the tooth, making it much more durable and in every respect more neat than the plan usually pursued. I have been putting up work in this way for some months, and from actual experience, can cheerfully recommend it to the profession. If you think this worthy of notice, you will give it a place in the Dental News Letter, and oblige

Yours respectfully,

J. F. WILSON.

BRIEF EXTRACTS FROM THE PROCEEDINGS OF THE PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

Meeting of Feb. 3d.—Dr. Daniel Neall addressed the Association at considerable length on the subject of “Examination of the Mouth and Extirpation of Decay.” The well known practical character of the Dr. will give an idea of the nature of his remarks.

In the course of the remarks, allusion was made to a great want of thoroughness constantly manifesting itself in the performance of dental operations, Dr. Neall affirming that in most cases where an operation on the teeth was pronounced completed, proper instruments would discover quite as many cavities as had already been treated. Exhibited to the members instruments employed by himself in examinations, which certainly seemed capable of discovering the most minute cavity. Also suggested, in reference to the extirpation of sensitive dentine, that among the best obtunders should rank sharp instruments. Alluded to his manner of removing the dead bone, the care oftentimes found necessary to prevent inflammation of the pulp, presenting, indeed, an aggregate of important suggestions, which must have demonstrated to every member the advantages of dental association.

Special Meeting, Feb. 19.—The question for debate was “Alveolar Abscess.”

Dr. Harris remarked—the subject was an interesting one; considered it imperfectly understood. Alluded to views entertained by different authors. Mr. Flourens maintaining that the internal periosteum is but a dipping through the foramen of the external, others holding such a view as a great error. If the first was true, then we had the same membrane performing a two-fold duty—secreting at one point, absorbing at another. If the reverse was true, then we might puzzle ourselves to explain the close existing sympathy.

The peculiar formation of the pus bag, the effects of so abnormal an agent on the surrounding living tissue—particularly its effect upon the particular organ involved—these, and the many collaterals could not be thought to be investigated without great accruing benefits, both to ourselves and to those whose sufferings we are called on to relieve.

Understanding the pathology of the disease, efforts and labor should be made in a hygienic direction; for, when it is considered the dependence of a tooth for health is on the vascular supply yielded through this membrane; and when, further, it is considered that it is not an improbable thing that it is the only source of tooth life, (and as, indeed, daily experience seems to prove,) it may be concluded that periostitis has so far progressed as to sever the attachment, the tooth is

beyond any remedy of our pharmacopœia. For his own part, believed this to be the case, and would like to see the discussion take the direction of causes and prevention.

Prof. Buckingham.—As the result of, first, simple vascular excitement and, second, inflammation running into gangrene, remarked that we had the disease known as periostitis once thoroughly fixed. Inclined with Dr. Harris to the belief that the teeth affected is beyond redemption. Suggested that it might remain in the mouth, and in individuals of certain temperaments, give service for years, but that it is a devitalized tissue, remaining in its position alone, as it were, through favor. Agreed that research should extend rather in the hygienic direction, as suggested, and, so far as its dento manipulative causes were concerned, would offer for what they might be worth, his mode of procedure, when attempting the destruction of the pulp of a tooth, in order to prevent the too often attendant evil. Esteemed that he had been most fortunate, and his source of good fortune might be presented in very few words. After treatment of the pulp, always plugged up his cavity with some substance saturated with creosote. Had found that creosote, through its alterative or stimulant properties, acted the good Samaritan's part. In the treatment of abscess used morphia, plugging up the cavity so that on the occurrence of trouble, the patient could remove the cotton or whatever it was composed the plug. The Dr.'s remarks were extended to some length.

Dr. Daniel Neal.—This hygienic seems the proper direction in which to employ our attention, for, have we no disease, we want no remedy, and the quaint saying of poor Richard "that an ounce of prevention is worth a pound of cure," is here peculiarly applicable, or at least it so strikes us. Was forced, from a long series of observations, to believe that the dentist held generally the key to this formidable disease. The contact of gold with a delicate membrane, from its conducting facility, opened the way to it in one direction; leaving diseased matter in a cavity led to it in another direction, and so on, many other excitants of which, was it necessary, mention might be made, and over which the dentist holds supervision.

Cleanliness, he remarked, was next to godliness; certainly, in dental therapeutics, was synonymous with salvation. In treatment, and particularly where a nerve cavity was concerned, exerted himself to the observance of this law. Was tempted, indeed, to believe it the *sine qua non*.

When, however, a case of alveolar abscess presented, his treatment, in part, was about the mode pursued for its prevention. Removed the

decomposed animal tissue, getting as near the apex with the excavator as possible, taking away every thing causing feter, and, through the medium of the syringe, endeavored to complete and perfect the purifying process. Thought that no abscess, however severe or alarming, should throw the dentist from his equilibrium. Extracting instruments were the very last in his pharmacopœia. Believed that judicious treatment might often save, and that tooth life, like human life, was of sufficient consequence in most cases, to command every exertion.

The Dr. mentioned several very interesting cases of alveolar abscess which he had successfully treated. In one case (that of a lad) the tooth and parts were so affected as to discharge at least a thimbleful of pus, and, ultimately, the tooth became so loosened as to have permitted its removal with the fingers. It being, by reason of its position, of much use to his patient, felt compelled to use every exertion to save it. Treated it with camphor and cleanliness, and in ten weeks had the satisfaction to find it sufficiently firm to allow of its being filled with gold, which operation was performed, and the tooth has since remained useful and entirely comfortable, a year having passed. Mentioned this last as an extreme case, and thought the members would agree with him, that if the disease thus progressed, was conquered, it was sufficient reason to warrant exertion in any and every case.

Prof. J. D. White coincided with the views of Dr. Neal. Urged the necessity of the purifying process. If such a law was more closely observed, thought that in more directions than this one, the dentist would have reason for self-congratulation. It was the foundation law of health, and without such a corner-stone, strength could not be given the edifice.

Prof. Flagg alluded to the causes of abscess. Has often remarked the disease as resulting from an imperfect dental operation, and particularly where, in the attempted filling with gold of nerve cavities, the canal has not been plugged. Another fertile source was the setting of pivot teeth. In this direction, his experience has been that where arsenic is used to destroy the nerve, alveolar abscess is an almost certain sequence. As regards the nature of the disease, viewed it as a deep-seated ulcer, and pursued similar treatment.

Prof. Parry.—Has had much trouble. Never yet found a remedy anything like universally successful. The most successful ever employed, is now using. Is beginning to rest strongly upon it, and has had the happiest results. Uses chloroform freely about the abscess. If able, injects both through the foramen and abscess. When able to employ it in this last way, feels very confident.

President Townsend.—Will Prof. Parry give us his theory of the action of the agent?

Prof. Parry.—It acts both as a stimulant and alterative; acts similarly to nitrate of silver on diseased flesh.

Dr. Harris.—As other gentlemen had given their mode of treatment when meeting with the disease, would offer that adopted as a general rule by himself. Endeavors, with injections of nitrate of silver, from 10 to 30 grains to the ounce of water, to break up the disease as in other parts is attempted with escharotics; when necessary, cuts away surrounding integuments to as near the seat of disease as may be done with safety, that he may the better inject; mentioned, among others, the case of a lady where three roots of the same tooth were involved; the palatial fang was discharging its matter into the cavity of the mouth, and the two buccals outwardly; removed all the diseased matter possible; conquered the disease with the nitrate of silver, as alluded to; the tooth of course was dead, but served the patient without further annoyance for a series of years. The Doctor, in the continuance of his remarks, viewed the pathology of the disease at length, and referred to several cases to which he applied the name idiopathic.

Prof. Arthur.—Alveolar abscess never results from causes entirely constitutional; had never met a case where the predisposition had not in some degree a local origin. Any particular point to be effected must have in itself some weakness rendering it less able to resist disease than its neighboring parts; did not rise, however, to discuss, the question, but desired to offer some few remarks on its plainer causes. When a tooth receives a blow, depriving the pulp of vitality, the dead matter is absorbed through the tubuli, exciting periosteal inflammation. As a result, we are tolerably sure of alveolar abscess, if an immediate and proper treatment is not adopted—a treatment very simple in itself, and with which all, of course, are familiar, “that of opening into the pulp cavity and removing the matter, &c.” In regard to alveolar abscess resulting from treatment of the pulp with arsenic, in ninety-nine cases out of the hundred would attribute it to the carelessness or unskillfulness of the operator; from close observation, was convinced that facts would bear him out in this assertion. Nerve cavities are, as a general thing, too hastily prepared, the filling of gold too quickly succeeding the arsenical application. To remove the body of a pulp from its chamber is generally an easily accomplished task, but it is in the canal of the roots that we have our trouble; and to fill over the dead matter there contained is, in many cases,

the cause of disease. Such, indeed, is the susceptibility of the periosteum to disease, that the absorption of decomposed food allowed to remain in a nerve cavity, will excite inflammation; cited several cases illustrative of the various causes, which were possessed of much interest and bearing on the subject.

Prof. Buckingham.—If using nitrate of silver at all, would use it strong; it might discolor, yet inclined to believe the tooth would soon resolve back to its original color; would, however, as previously remarked, prefer the use of creosote, because it does the work of the silver yet has none of its objections; as a vapor it penetrates through the foramen, exercising its caustic alterative and stimulating effects on the part involved, breaking up disease and exerting to healthy action. Concerning constitutional predispositions, if it is remembered that a part once truly inflamed is ever more liable to be attacked than other parts, we may have an explanation in part of systemic influences centering on some particular tooth of the thirty-two, or however many there may be in the mouth; as referring back, we may remember the tooth involved as having at some previous time been the seat of disease.

Prof. Arthur.—Abscess resulting from pivoting teeth will be explained by my previous position, as I incline to believe—the non-removal of the entire nerve—and under any circumstances while this is allowed to remain all treatment is useless. The Doctor alluded to cases of abscess he had met, in which the pulp seemed not in the least involved.

For the Dental News Letter.

ADJUSTING LOWER PLATES.

MESSRS. EDITORS :—In the October number, 1855, of your *valuable* journal, I find a communication from “A Subscriber,” with remarks from Dr. White, respecting the adjustment of lower plates; also one from Dr. Goddard in the January number, 1856. Dr. G. very justly remarks that “every member of our profession has his own peculiar method of adjusting plates.” As for myself I can claim no very great amount of *unassisted*, practical experience in the adjustment of lower plates; having been in practice away from my preceptor, (Dr E. P. Byram, of Cooperstown, N. Y.,) only about one year. During the six years I was with him, however, I claim to have seen an assisted in the adjustment of as many complete sets of teeth as usually falls to the lot of a student in dentistry. In that time we (*I must say we*, for I had a hand in them all,) adjusted over one hundred lower

plates, of which all but one had its mate—the upper plate ; and that one never gave satisfaction until it was entirely made anew for the third time. Out of the whole number, we put springs on but one ; that was for an old gentleman of sixty years.

We had, perhaps, six of the lower plates to make over, which Dr. Byram attributed to the plates being inserted before absorption of the gums was complete. I will give his manner of adjusting lower plates.

One of the most essential things—and the failure in which is the “rock on which many split”—is to get a *perfect* impression ; that is oftentimes a most difficult thing to do, as the wax will in some cases suck itself entirely out of shape in coming off.

To prevent this, in the holders are pierced three small holes of a size to permit the passage of a common broach ; one is in the centre of the holder, the others on each side and about one inch from the centre one. Before taking the impression from the jaw, pass a broach through each passage until it touches the ridge of the jaw ; that counteracts in a greater or less degree the atmospheric pressure, and as a general thing, the impression, with care, can be taken off undisturbed. Get up the male cast from zinc, the counter-cast from lead, and swage the plate as thick as is possible. I generally use three or four female casts before I get the plate properly swaged. I always want to see an under plate fit as nicely to the jaw as an upper one. If by pressing on one side of a lower plate, the opposite would rise, I do (and when with Dr. Byram *had to do*) the work all over until it was a perfect fit. Every dentist knows that in most cases the lower plate has to be very narrow. Dr. Byram used to tell me, “in making an under plate to cut it until I thought I had spoiled it, and then file off a little more.” After trying the plate and being satisfied that the fit is perfect, and that the ordinary movements of the tongue and loose integuments of the mouth will not displace it, proceed to solder around the anterior edge the half-round wire, and the job is ready for mounting the teeth, which is not the least part of the operation by any means. I consider perfect articulation one of the most essential points in the well fitting of an under plate, especially in mastication.

Another cause of so much trouble from lower plates arises from the great haste which many persons show to “have their teeth” before absorption is half complete, and in some cases actually forcing their dentist to insert the lower plate when he knows that in so doing he is inflicting an injury upon them, and a still greater one upon himself. Much can be said upon adjusting lower plates, and I hope we shall be favored with as many articles on the subject as we have upon plate springing, alias “mysterious twistification.”

Before I close I must relate to you a demonstration of genius that does not occur every day. While I was with Dr. Byram, we made a complete set of teeth for a hale, stout, old farmer, by the name of W——. After he received the teeth he started for home fearful that he should never learn to use them. Some six weeks afterwards, a neighbor of Mr. W—— was in the office, and told us that Mr. W—— eat chickens and chickens' bones with his teeth; and furthermore, he had made himself an extra set of teeth for *general use*. The next day Mr. W—— himself made his appearance, and sure enough he had made himself an extra set, and had them in his mouth. He had cast them in sand from block tin, using the ones we made him for *moulds*. Both plates were perfect in their fit, and their articulation was beautiful. I often tried to get the Dr. to tell you of it, but he being of a *retiring* and modest disposition, declined.

Respectfully yours,

M. B. PATTERSON, *Dentist*.

Saint Paul, Minnesota Territory.

For the Dental News Letter.

RISKS IN THE USE OF COBALT.

EDS. DENTAL NEWS LETTER:—Some months since I applied cobalt to two sensitive teeth, sealing up the cavities with wax. What was my surprise at finding, a few days after, the teeth stained completely through, of a purplish hue! In answer to my questions, my patient told me that the wax came out, and that he subsequently ate vinegar with his food. Thinking this disastrous result might have been produced by the combination of the acetic acid with the cobalt, (which produces a purplish color,) I experimented with vinegar on cobalt, lying on paper, but produced no change of color. Can you give any light on the subject?

I would also state that I do not think it safe to allow cobalt to remain in a tooth over nine hours; and that in deep-seated cavities, where there is danger of destroying the nerve, it is well to apply a drop or two of gutta serena dissolved in chloroform, directly over the nerve, before applying the cobalt.

A dentist recently stated to me that he had observed black lines underneath the edges of front fillings, while the sensibility had been removed by means of cobalt, and the teeth plugged about a year before. On removing the fillings the black lines proved to be charred portions of bone, harder than the surrounding dentine. I think this result would have been avoided if all the surface of the

dentine upon which the cobalt was applied had been cut away; and doubtless this ought always to be done. The gutta percha solution, before mentioned, might be used advantageously for protecting all parts of the tooth, except those which are sensitive, from the action of the cobalt.

Yours,

J. W.

Brooklyn, March, 1856.

The above interesting communication from our correspondent "J. W.," on the "Risks in the use of Cobalt," contains some very instructive hints. We would refer him to an essay on the treatment of sensitive dentine, in the present number of the Dental News Letter, which we had the privilege of reading before the Pennsylvania Dental Association, for our usual process of treatment in the different stages of decay preparatory to plugging. In answer, however, to this question—"Can you give any light on the subject?" we do not believe that the use of vinegar caused the purple tinge of the teeth referred to, as we have very frequently seen the same thing occur where arsenious acid alone had been used, and kept too long in the tooth, or where it had been absorbed so much as to inflame or destroy the pulp. We have also seen the same thing occur to teeth that had been injured by violence; it is also observed about the necks of teeth of persons who have been drowned or hanged. In the case above referred to, it was doubtless caused by inflammation of the tooth, induced by the arsenious acid in the cobalt. We never use cobalt for the reason that it is too feeble in its action, and consequently has to be held in contact with the surface of dentine long enough to be absorbed by the tooth, and is liable to inflame the pulp before the surface of the dentine is rendered insensible. We rarely use arsenious acid in deep cavities; if we do, we place wax in the bottom, and a small portion of arsenious acid around the margin of the cavity. We have never used the gutta percha dissolved in chloroform, but think it a good precaution. Indeed we never in any case apply arsenic in the middle of a cavity, but always around the edge, and never sufficient to totally destroy sensibility, if we can help it. We frequently find, upon taking away the wax or cotton which secured the arsenic, that the sensibility is not entirely removed, but by allowing the cavity to remain open for a day or two it would disappear by the action of what had been absorbed. *If arsenic be left in a cavity below a plug, it will in time reach the pulp and inflame or destroy it, and turn the tooth blue, although years may elapse.*—J. D. W.

[We make the following selections from a work now in course of preparation, entitled "*Review of Dental Studies*," and shall hope to give additional extracts in future numbers.—ED.]

Tumefaction of the Salivary Ducts.—A disease somewhat uncommon, yet not sufficiently so to admit of being overlooked, is the tumefaction of the mouths of the salivary ducts. The only case ever coming under our own immediate observation had its location at the side of the frænum linguæ, as follows. We give the case and treatment:

The first feature—as described by the patient—was a scarcely apparent sac or membranous bag; this gradually increased in size, being filled with the secretion of the gland, until it caused not only alarm, but interfered seriously with the process of mastication.

On application for treatment we struck a lancet freely into the sheath, which, as expected, was followed by profuse discharge. Concluding the difficulty thus ended, the patient was dismissed.

A second time, however, the case presented itself; the tumor had not only re-formed, but was of increased dimensions, and more important aspect.

Before resorting to a second operation, we felt disposed to consider the cause of failure in the first, and on the conclusions arrived at, founded a simple surgical, and most successful treatment.

The mouth or mouths of the gland being abnormally closed, prevents the egress of the secreted fluid, which collected fluid increasing in quantity raises or tumefies the obstructing part. This swelling would necessarily increase until the over-distended sac should burst, or a diseased action of the gland be engendered; the latter of which results would be least desirable. Lancing the part, whilst it gives a present immediate relief, it becomes evident, on reflection, is but a doubtful operation as regards the permanency of cure, as the severed parts, by the proximity admitted in the discharge of the contents of the sac, by first intention, almost immediately cohere or heal.

Founding the operation on these conclusions, we excised nearly half the tumor, and by the employment of caustic prevented the possibility of a second healing. In a few days the protruded part contracted to a normal position, and the case remains a permanent cure.

Offensiveness of the Breath.—So almost universal is the belief that this common and annoying affliction has for foundation a diseased condition of the teeth, that at the hands of the dentist does the patient generally seek relief.

Observation, however, must have convinced practitioners of any experience, that cause or causes often lie in quite different directions, demanding of the physician, rather than the dentist, the treatment necessary.

Overlooking dental, and the systemic causes familiar to all, we would direct attention to a local cause too little considered, but which, in a large proportion of cases, will be found to have much relation with the matter. We allude to an abnormal condition of the tonsil glands.

These glands, it will be remembered, are situated on either side of the throat, immediately under the wings of the vellum palatii, or, we might better say, opposite the uvula or palate, and are made up of an ovoid collection of follicles. The outer, or throat surface, is covered with mucous membrane, and contains or holds the orifices of the several cells. The office of these cells is to secrete a transparent, viscid mucus which assists in facilitating deglutition. The secretion is excited by the passage of the bolus. The tonsil glands are, further, what might be termed lobulated. Now, when because of local disease, or languor, these glands become sluggish, the mucus, or dead epithelial scales, or dead blood corpuscles, which ever it may be, collect in these lobular spaces, and not being cast off, because of insufficiency in quantity of the secreted eliminations, becomes, in time, most offensive, giving an odour to the breath, which, when once particularly remarked, ever after will expose this cause of fœtor.

In diagnosing, all that seem necessary to satisfy as to whether the disease has origin in such condition of the tonsil glands, is to pass an ivory spatula, or the finger, back to the part, compressing it. If the suspected lodgment exists, a great increase of fœtor will follow.

Treatment.—Satisfied as to the source of the fœtor, press the glands which will discharge the lodgments. Then, with reasonably stimulating gargles, excite to more vigorous action. A general tonic course may also be employed, as well as daily washing of the parts by gargles of cold, pure water.

Elongation of the Uvula.—This fleshy fold of the vellum palatii is composed of the azygos uvulæ muscles and enveloping mucous membrane. It is often the seat of disease, which it may not be amiss for the dentist to keep in remembrance.

Elongation of the uvula, from whatever cause produced, results, when the tip rests upon the tongue, in an injurious irritation of the part, producing a hacking cough, and much inflammation of the air

passages; being, indeed, in its neglect, one of the most common causes of consumption.

The causes of elongation are various. Atony of the muscles may allow it, an abnormal growth of the part, a thickening or swelling of the surrounding membrane, &c.

Satisfying ourselves as to the cause of a difficulty of this nature, which may present itself, the treatment, if we attempt the correction, should be directed accordingly.

If the elongation results from atony, stimulating and astringent gargles commend themselves. If the part is normally firm, but overgrown, it will be necessary to tip from the end the least piece; also, in the over-development of the membrane, excision is the proper treatment. But, in attempting these operations great care is necessary, otherwise the faculty of speech may be impaired; the slightest piece from the tip will generally be found sufficient. A pair of delicate scissors may be employed.

Diagnosing Tumors of the Antrum.—An anatomical examination of the antrum of Highmore presents different degrees of thickness in its walls; tumors project one or another of these weaker surfaces. Thus, often the first intimation of a tumor is a scarcely noticeable loss of symmetry in the part.

The thinnest wall or surface of the antrum is found commonly immediately over the canine fossa, and deserves, for this reason, a first examination. If a tumor exists, this part will generally be found projected, and which projection, as the tumor enlarges, grows more and more plain. If, however, this point seems normal, let attention be directed to the second weak wall, the floor of the orbit; this may be found projected; if so, the eye will stand more prominent than its fellow. The third weak surface is the wall of the nasal fossa. The fourth, what might be termed its pharyngeal surface. If a careful examination of these four points discover no unnatural feature, it may be premised that no tumor exists, at least in very advanced stage of development.

Metastasis.—A term from the Greek, signifying "I change place." In the treatment of disease, metastatic relations should always have consideration, otherwise a simple disease, by being driven to a less governable part, may cause serious annoyance. An abscess healed imprudently, may burrow internally, destroying life.

Alveolar abscess, venting its pus favorably, should, fearing metas-

tasis to the antrum or other undesirable part, be carefully treated—applications being directed through the medium of injections to the root or source of disease—and unless metathesis is desired, never superficially. Opposite instances, in illustration, simply familiarizes the subject. It would most likely be at the cost of life to a patient affected with gout in the extremities, to adopt for his relief a merely local treatment. On the contrary, a person suffering from calculus in the urethra, would have safe relief afforded by the metastatic operation of pushing it back into the bladder.

Dental Hygiene.—In Paper 12, we alluded to the desirability of securing a normal arch and a normal arrangement of the teeth. We have now to speak of what might properly—yet strangely enough—be termed an abnormal normality, a seemingly perfect arrangement, and yet a most unhealthy one.

Observations extending over a space of several years, have convinced us that, in what are recognized as perfect arches—one, two, four, or even more teeth, may generally be sacrificed at a gain, and to the lasting benefit of the remainder.

More particularly, and indeed we feel that we should add, truly in every case is this advice applicable to classes second, third, fourth and fifth, described in the anatomical division of this work.*

Among the prominent causes of caries may be enumerated naturally imperfect enamel, and mechanically imperfect enamel; the first, a natural defect, the second the result of mechanical causes; either, however, allowing of that exposure and consequent chemical action on the dentine which results in its disintegration.

The last of these causes concern our present consideration of the subject.

Lying upon the table at which we write, are quite a number of apparently perfect teeth which have been extracted from full arches, in pursuance of the practice here suggested.

An examination of most of these teeth, microscopically, present approximating surfaces more or less imperfect according to their impingement, or what were, when in relation with their fellows, their impinging points or surfaces, seeming (we just now have a section under the field) as if slight disintegration had taken place.

The arches from whence these teeth were taken, presented an entire regularity of arrangement, and were entirely such as would be recog-

* These classes embrace all teeth excepting those recognized as first class.

nized as perfect, whilst in every case the extractions have been made prior to the appearance of the wisdom teeth.

Now, the examination makes evident that these arches and teeth, although apparently so normal, yet were, so far as a future is concerned, most abnormal. The disintegration exposed by the microscope could only have been produced in one way—the pressure of tooth against tooth, which pressure, as the development progressed, of a necessity must have been increased.

A succeeding effect, as becomes most plain, must be the propagation of caries through the influence of the action of buccal acids thus admitted.

We remarked that these teeth were extracted previous to the appearance of the wisdom teeth. If, then, arches of fourteen teeth are found, as a general rule, over-crowded, we at once discover that the difficulty must be increased by the succeeding eruption. [See Paper 17, on Dentition.]

Very true it is, that at the various periods of the extraction of these teeth, the elongatory process had not completed the task of development, yet, after the eruption of the second molars, we may not hesitate on this account to interfere.

We advance the suggestion, then, that in the vast majority of cases, the extraction of four of the bicuspidati, or the four first molars, will be found the very best operation that can be performed hygienically for a patient.

In a practice extending over several years, we have pursued this course with nearly all young persons placed regularly under our professional care. We have thus saved dentures where we believe all other treatment would have failed; and we have now quite frequently the satisfaction of examining sweet, pure mouths; sweet and pure because of the ease and freedom with which their uncrowded condition allows of their being cleansed, which we feel fully warrants the continuance of the practice, even were it less strongly recommended by pathological reasoning.

It may perhaps be urged that such practice is in direct opposition to the intentions of nature. Not at all; because the classes of teeth requiring this attention, this pruning out, as it were, are not what might be termed natural teeth, but are teeth deteriorated in their very organism by what seems to be a too common degeneration.

And yet this is the kind of teeth commonly found in the mouths of American children. For first class teeth—those requiring no such hot-house treatment—we must look in the mouths of young Irishmen.

The English will also be found to possess them. [For causes of deterioration, see Dentition, Paper 17.] The density of such teeth seems a complete protection against the mechanical injury to which we allude.

How common is it to find a filling in almost every approximal surface of a set of teeth; and not less common is it to find such teeth uncomfortable to their possessor, and as well a source of irritation to the surrounding parts. How evident seems the explanation—the fillings have been made necessary by caries induced by the breaking down of the enamel walls; and the turgid condition in which the gums of such mouths are commonly found, is engendered from a reflected chronic inflammation of each periosteum, induced and continued by the over-crowded condition of the fangs. We have seen such mouths where enormous expenses have been made necessary, and then only a semi-healthy condition secured, and where we have felt convinced that a timely removal of a tooth from either side of the jaws, would have corrected in the onset the disease, and secured to the individual a comfort which an opposite treatment had thus forever denied.

Illustrations.—Miss A., at the time aged 25, presented herself for certain operations on the teeth. Examining her mouth, we found, with some few exceptions, fillings in every approximating surface. The operations had been performed by one of the most skillful gentlemen in the profession, and had proven more than successful. From the cuspidati back, the V cut had been freely made, and the great care given by the patient had preserved the teeth and fillings nicely. The arch was perfect, both above and below, that is, not a single tooth had been lost.

The lady remarked that when about sixteen, she first noticed an uncomfortable sensation between the teeth, on taking hot, or cold, or acid substances into the mouth; about two years after which time they were found so decayed as to make necessary the operation. While congratulating herself upon the success of the dentist, she had to complain that her teeth had never since been entirely comfortable, being a source of constant petty annoyance, her attention being always directed to them, “having a feeling,” to use her particular language, “as if the nerves were over-tasked.”*

One week after, a younger sister, aged fifteen, visited us. The arch here, as in the first case, was perfect, and completed, excepting the wisdom teeth. A slight decay of one of the bicuspids was the difficulty for which she presented herself for treatment. Much against

* The consideration of this case, it was, first directed our attention to a hygienic treatment by extraction, or freeing of the arch.

our patient's will we removed it, as well as its fellow of the opposite side. An examination of the approximating teeth exhibited the slight breakage in the walls referred to. This defect, by the employment of a fine file and pumice, we removed, the same treatment being adopted with all the other teeth, fearing them similarly affected; the same principle rather, dispensing with the file and employing pumice on floss silk.

One month after this second visit, a third sister, twin to the second, presented herself. For this young lady two fillings were placed and the first four molars removed.

Nearly four years have elapsed; we have had many opportunities of examining these different mouths. The first continues subject to her constant annoyance; the two last enjoy as healthy mouths as it is our pleasure to have under care.

To recapitulate, then. Under circumstances, it may be the very best hygienic practice to remove from each arch two or more teeth for the purpose of giving room to the remaining.

It must be evident, however, to every practitioner, that features sometimes present themselves, which would make this practice inadmissible, as for instance where a peculiar articulation might be injuriously affected, or something of such a nature. In this, as in every department of practice, judgment must direct.

For the Dental News Letter

CATAMENIA TEMPORARILY INTERRUPTED IN ITS COURSE BY THE EXTRACTION OF TEETH.

MESSRS. EDITORS:—The uncommon circumstance expressed in the above caption, took place very recently in the practice of Dr. T. H. Edmonds, of this city. And when, in a friendly conversation, he mentioned the case to me, I was so forcibly struck with its rarity, that it occurred to me that a brief narration of the facts might prove both interesting and important to the profession; and, as I am *afflicted* with rather more leisure than my friend, Dr. E., I have volunteered to write them out in my own imperfect way. Some few days since, a lady patient came to his office apparently in fine, or at least, in good health, and desired to have the two left superior bicuspids extracted. They were removed without difficulty, save that which followed, viz a profuse hemorrhage from the alveoli. It subsided, however, in three or four hours, so that she could return home.

The next day, in the afternoon, the Dr. was sent for. He attended, and found the patient in bed bleeding copiously. In conversation, she told him that nature was performing its functions the day before when the teeth were taken out, but that it ceased almost immediately after their removal. He lost no time in applying a compress to the part, and soon arrested the flow of blood, not many minutes after which she informed him that nature had resumed its work (in the other direction.)

Now, this appears to me to be rather a novel case—novel though, perhaps, from the fact that such phenomena, for the want of interest, (or something more censurable,) do not always come to light. But, be that as it may, it certainly is quite suggestive of the importance of looking strictly to the peculiarities of habit and constitution to justify us in all our manipulations, and particularly in the extraction of a number of teeth. It is due, *en passant*, to say that the patient whose case we have mentioned, was of plethoric habit. I should think, however, that the same state of things might be produced in any hemorrhagic diathesis, if taken at the *same period*. Your opinion upon this last point would be quite acceptable.

I remain, gentlemen, yours very respectfully,

JOSEPH WOODWARD, *Dentist*.

Richmond, Va., March 22d, 1856.

The above interesting case is only another fact which goes to show that any powerful nervous impression may produce temporary *amenorrhœa*, or suppression of the menses. Writers remark, that sudden arrests or stoppages of the menses may take place from slight and perhaps local causes. We do not think that the hemorrhage consequent upon the extraction of the teeth caused the suppression of the menses in this case, but from the nervous impression at the time. Slight causes may produce it when the system is not in a good condition. We never urge the extraction of teeth, unless the patient is in proper condition of health. Hence, we frequently remark to our female patients, “when you feel well and think you are able to have it done, we would like to extract your teeth,” and it is not likely that they misunderstand what we mean, or that they would apply to us during the period of menstruation. From the regularity of this peculiar function, females are in the habit of regulating their business and pleasures accordingly.

J. D. W.

For the Dental News Letter.

LOCAL ANÆSTHESIA.

BY I. B. BRANCH, DENTIST.

MESSRS. EDITORS:—This subject is perhaps becoming somewhat hackneyed, but as my name has been somewhat connected with it, and as I am in daily receipt of letters of inquiry concerning it, I trust you will indulge me while I answer some of them through your valuable "Letter."

My experience in its use leads me to the following conclusion:—First—It is in all cases safe, and efficient for good, where its application is at all desirable, in the practice of our profession. I said efficient for good; I do not by this mean that in all cases of extracting it is efficient in doing away with *all* pain, but it is in all cases mitigative to such an extent as to render its use an undeniable blessing, and in a large majority of cases is absolute in preparing the way for a painless operation.

When a part is prepared, it is absolutely essential to success that the operation should be performed as quickly as is at all consistent with safety and proper caution. By acting upon this principle, I have extracted from four to six contiguous teeth with one application, with my instrument, without pain. As to its power, it varies with different temperaments. It is like all agents coming from God's hand direct, as it were, most powerful and most useful where most needed, viz: enfeebled and nervous constitutions, while the robust and hardy constitution resists its action with a tenacity that *sometimes* renders it *almost* a nullity. This is as it should be. God protects the weak, temporing the winds to the shorn lamb, while he allows the fiercest tempests to sway the oak to and fro, and bids it strike its hardy roots deeper and deeper in its native soil.

As to its after effects, when rendered *strictly local*, i. e., confined to the parts immediately contiguous to the portion operated on, they are rather of a beneficial character—in no case in my practice, injurious. I have used it with happy effect in filling sensitive teeth, but it requires great caution and discrimination in such cases.

I have, as most of the profession are aware, prepared instrument for its use, which are for sale per advertisement. I have cautiously felt my way in its use, having had, from the beginning, no instruction from pioneers. If any have gone before me in its use in dental practice, I am ignorant of the fact.

There is a class of men in the world who deem it an impeachment of their professional dignity and ingenuity, to acknowledge that the

have learned any thing from others. I desire not to imitate those or come into their secret.

I could point out a city where a small swarm of this class exist, who, since my instruments and instructions were in the market and accessible, claim a great deal of originality in the introduction of Local Anæsthesia. With how much justice or truth, is not for me to say. Some of them seem to me to be starving for reputation; and the good book offers a sort of apology for men who steal to satisfy hunger.

One thought more and I have done. The query with many is, why is there no sloughing after congelation for surgical purposes? I answer, because the blood-vessels are relieved from the congestive reaction by being cut across or lacerated in the operation.

Galena, Ill.

For the Dental News Letter.

WESTERN DENTAL SOCIETY,

For the purpose of elevating and perfecting the noble profession of Dentistry by the cultivation of an enlarged liberality of sentiment; by the fostering of an honorable spirit of emulation, and by the full and free interchange of views and opinions.

The professors of Dentistry of the surrounding country and neighboring States, met in the City of St. Louis, on the third day of April, in the large hall of the St. Louis Medical College, and organized the Western Dental Society. The following were the officers elected for the ensuing year:—Edward Hale, Sr., of St. Louis, President; H. E. Peebles, of Lexington, 1st V. P.; W. W. Allport, of Chicago, Ill., 2d V. P.; Henry Barron, of St. Louis, Recording Secretary; C. W. Spalding, of St. Louis, Corresponding Secretary; A. Black, of St. Louis, Treasurer; M. W. Hicks, of Keokuk, H. W. Lewis, of Quincy, H. J. B. McKellops, of St. Louis, S. Dunham, of St. Louis, Isaiah Forbes, of St. Louis, Executive Committee.

A committee appointed for the purpose reported a constitution, which was adopted.

The executive committee were instructed to procure a certificate and seal and issue one to each of the members of the Society as a testimonial.

The subject of arsenic, fang filling and anæsthesia, were ably discussed during the session. On motion, it was

Resolved, That any member, who may have performed operations of a peculiar nature, present the same to the Society.

The following was unanimously adopted:

Resolved, That the thanks of the Society be tendered to the Faculty of the Medical College of St. Louis, for the use of their hall.

Resolved, That when this Society adjourns it adjourn to meet in Chicago, on Wednesday, the 30th of July. *Adopted*.

Dr. Allport, of Chicago, rose and asked permission to make a few remarks on behalf of his non-resident brethren.

Mr. President—In consequence of the generous treatment we have received from our professional brethren of St. Louis, by participating in social intercourse with our city brethren and the heads of the St. Louis Medical College, in the enjoyment of a glorious banquet where there was “a feast of reason and a flow of soul,” we met together, when the following was adopted, and we ask permission to have it spread upon the minutes.

Resolved, That we, the non-resident dentists, express our gratitude and thanks to the dentists of St. Louis for the hospitable manner and brotherly affection with which they have received and entertained us while in their city.

Permission was granted and the Society adjourned.

EDWARD HALE, SR., *President*.

HENRY BARRON, *Recording Secretary*.

For the Dental News Letter

FRACTURE OF THE INFERIOR MAXILLARY.

MESSRS. EDITORS:—To-day I was called on by Mr. —, who stated that he had been troubled with the tooth-ache for some time, and this morning, while in the shop of a hair-cutter, bleeder, leecher and tooth-drawer, in the upper part of the city, getting shaved, he spoke of his tooth; he was advised to have it out by the barber, who told him it would only take a few minutes to draw it. After pulling and working about an hour, he removed the tooth, leaving a loose piece of the maxillary bone sticking in the gum, telling him to call in a few hours and he would get his tools fixed and take it out. On examining, could feel the bone near the angle of the jaw, which I extracted by holding it with a pair of spring forceps and cutting the integument. The tooth was the left inferior dens sapientia, of medium size and a straight root, the piece of bone was about an inch in length and from a quarter to half an inch in depth from the labial side of the bone, and looked as if it extended from the second molar to near the angle of the jaw. With cases of this kind before their eyes, will people of intelligence continue to intrust so important an operation as the extraction of their teeth to barbers and blacksmiths, and others of the same cloth, who know no more of the anatomy of the teeth and mouth than a babe unborn!

ALEX. R. SHAW, *Dentist*.

For the Dental News Letter.

DIRECTIONS FOR USING SLAYTON'S COLORED GUTTA PERCHA.

MESSRS. EDITORS:—The following is my method of working this preparation :

My first operation, after getting a correct plaster cast of the mouth, is to wet my plaster cast in cold water, and then taking a sheet of the gutta percha, immerse it in boiling water until softened, when I immediately apply it to the cast, (having my fingers wet,) packing it carefully around the arch so as to have it set firmly to the cast. I then take a knife, heated in the flame of a spirit lamp, and trim the gutta percha off as high as I wish the plate should go. My next process, after getting my gutta percha plate, is to take a half-round silver wire, about one-eighth of an inch in width, bending it so as to fit on the arch. I then heat this silver wire by a spirit lamp and imbed it slightly in the gutta percha, having the flat side up and set it on the cast, so as to have the facings of the teeth strike as near the centre of the arch as they can. If the cast should be uneven, so that the silver wire will not strike all around, level it up with the gutta percha until it does, and then imbed your wire again. Now you have your plate similar to a gold or silver one, differing only in the material. The gutta percha and wire, as now attached, are one. Your next process is to get the antagonizing cast, or "bite," as some call it. This you do in the same manner you do with gold plate, that is, put wax on the gutta percha, on the wire, (for the wire is now part of the plate,) put it in the mouth and let your patient bite, as usual. When you remove it from the mouth, pour in plaster of Paris, as you would with gold plate. After you have obtained your antagonizing model, arrange your teeth on the silver wire with adhesive wax, or wax of any kind; and when they are all arranged so as to articulate, take the blade of your knife and pry up your wire, wax and teeth from the gutta percha, which you will find no difficulty in doing. When this is carefully done, the teeth and wire will not be disturbed in the least. After this, lay the wire, wax and teeth attached, with the points downwards on a piece of paper, and pour on your plaster and sand, as usual. When this becomes hard, remove the wax and back your teeth with silver, letting the backings come down on the silver wire, as they would upon the gold plate, when using it; then solder with silver solder. And here, let me mark, that "three cent pieces" make the best solder we can get. When this is soldered, we have our skeleton. The teeth best adapted to this kind of work are those used for Allen's continuous gum work. They have narrow necks, which will permit the gutta percha being worked through

and around them; and when common plate teeth are used, they should be ground narrow at the base. After I have obtained my skeleton, I again heat it and place it on the gutta percha where it was before. I then try the whole in the mouth if I wish, and adjust them to suit my taste. I then take the scraps of gutta percha that are left after trimming my plate, cut them up into small pieces, and commencing on the outside at the last molar tooth, mould in between and around the teeth. This is done by using a pointed instrument and taking a piece on the point of it and then passing it through the flame of a spirit lamp until it is softened; after which fill in around the teeth, first on the outside, being careful to press it in firmly while hot. Pack on all the gutta percha you wish, and mould it around the teeth according to your taste. When the outside is finished, commence on the inside, being careful to unite the outside gutta percha with the inside through the necks of the teeth. Make it all as smooth as you can with the instrument. I would here mention that, after getting the antagonizing model, the work is not to be removed from the plaster cast (on which the work is done, it being used as a support,) until it is finished.

The next process is to polish the work. This is done with a piece of bladder (beef's) softened a little in cold flaxseed tea. I take the plate, which still remains on the plaster cast, and pass it rapidly over the flame of the spirit lamp, until the gutta percha is softened, when, covering the end of my finger with the bladder, I press gently on it. You will find this to break down all the uneven surfaces left by the instrument. After passing around the outside, I take the point of an instrument, or knife, and work the gutta percha snug around the teeth. I then soften it again on the outside, and use the bladder, rubbing it rapidly over the gutta percha. If this is properly done, a beautiful polish will be the result. In polishing, the bladder must be kept constantly wet. By repeating this process, you will have a fine finish. Do the same on the inside. In softening it over the lamp care should be taken not to keep it in the heat too long, or the gutta percha will turn black. Practice, for a short time, will make one perfect. I now immerse the whole piece in cold water, and then remove it from the cast. The edges I trim with a sharp knife or shears, and finish up with the bladder, as before. After this, place it again on the cast, warm it, and rub it with the bladder, until it fits the cast perfectly. The work is now done. It is easy to make whatever alterations you choose. The work can be done in less time than it has taken me to describe the operation. A full set, when finished, will cost about six dollars, *teeth and all!* Beautiful teeth, made express for this work, can be had of JONES, WHITE & McCURDY.

I will take this opportunity to say, that in all my transactions with the profession, in regard to this, as well as all other matters, I am not conscious of having violated any law of honor, or professional etiquette; and for all my acts am personally responsible. I say this, in consequence of having heard that my agents for the sale of the material, Messrs. Jones, White & McCurdy, have been charged with a participation with me in false representations, and of my having thus compromised them: to which I have to say, that I deny, positively, there being any cause for such charge. I have not misrepresented in any particular, only claiming for my improvement, advantages as temporary work, which it certainly possesses; and that Jones, White & McCurdy's only connection with me in the sale of it, was simply as *agents, to dispose of the material* in accordance with my instructions, which instructions they have faithfully observed. All this I feel compelled to say, in justice to them as well as myself.

Persons acting as my agents, without authority, may have misrepresented me, and some acting by authority may have exceeded their instructions, but for their acts, I surely am not to be held responsible.

Respectfully,

N. B. SLAYTON.

For the Dental News Letter.

THE ANTERIOR PERMANENT MOLARS.

BY J. H. M'QUILLEN.

Every dental practitioner of experience and observation, has no doubt remarked, that but a limited number of persons are fortunate enough to retain the anterior molars of the permanent set, up to the twentieth year.

An eminent author,* who has made the relative durability of the teeth a special subject of investigation, found that out of 3,000 extracted for various reasons, 1,124 were anterior molars, and that 68½ per cent. were removed from persons under fifteen years of age. The register from which this data was obtained, was kept at the Middlesex Hospital. Under more propitious circumstances, many of the teeth could have been saved, but owing to the limited means of the patients operated on, they were, of necessity, sacrificed.

It would be reasonable to suppose that this proportion should not hold the same ratio in private practice, where the means of the patients are sufficient to remunerate the operator for services directed towards

* Tomes, p. 139.

the preservation of the organs. From certain influences, however, operating upon practitioners and patients, it does not, so far as my observation extends, seem an exaggerated proportion even there.

In entering upon the consideration of this subject, I propose to inquire into the causes, predisposing and exciting, that induce such a disparity in the durability of these teeth as compared with others, and also to ascertain whether by timely and properly directed remedial treatment, the proportion extracted can not be very much diminished.

Developed, as the anterior molars are, at the age of greatest susceptibility to the diseases incident to childhood, it is reasonable to infer that the function of nutrition must be so modified in its action during the prevalence of those afflictions, as to prevent the perfect formation of these teeth. If, however, during their ossification the system is perfectly healthy, they will, undoubtedly, be better prepared to resist the destructive influences of external agents.

Defective structure may, therefore, be fairly regarded as the predisposing cause. Marked evidences of this condition are not wanting, for it is not an unusual circumstance to find them decayed when but half erupted.

The entire absence of attention to the proper cleansing of the teeth, characteristic of this period of life, must be regarded as a fruitful cause of the rapid progress of decay. Added to this is the almost universal ignorance on the part of parents of the fact that these teeth belong to the permanent set. Indeed it is frequently a very difficult matter to convince them of the true relations of these organs. Thus, incipient decay—which, arrested in time by the operator, would have preserved the teeth—progresses so far and so rapidly, that it is not uncommon for the nerves to be exposed as early as the seventh or eighth year of age. This early denudation of the nerve is attributable to the large size of the pulp cavity, and the very thin lamina of dentine through which the decay has to progress during the second or third year after the eruption of the teeth.

A prominent cause, I am inclined to believe, that increases the number of these teeth sacrificed, is a want of faith, on the part of many dental practitioners, as to the expediency of attempting to save them when radically decayed, particularly when the nerves are exposed earlier than the tenth or eleventh year; and thus, efforts which would be promptly exerted in behalf of other teeth, are not extended toward them for that very reason. In consequence of this impression certain dental writers have advocated the extraction of the anterior molar instead of the bicuspid in the treatment of an irregular denture. Th

practice I can not but regard as an injudicious one, except when the teeth are so badly decayed and broken up as to render all efforts directed towards their preservation futile. The reasons for entertaining this view are various:—In the removal of the molars there is double the masticating surface lost that there is in the extraction of the bicuspid; added to this the unfavorable position the second molars almost invariably assume after the operation, prevents a proper occlusion with the teeth of the opposite jaw, and in approximating the bicuspid, as the intervening alveolus is absorbed, their approximal surfaces do not present parallel to each other, but are so situated as to leave a cone-shaped space between them—the base of the cone being formed by the gum. This favors the retention of decomposing agents, and the ultimate decay of the teeth. Lastly, the early removal of these teeth facilitates the premature and imperfect development of the wisdom teeth, so characteristic of the present generation.

The course to be pursued in decreasing the number of anterior molars sacrificed, is to impress upon the minds of parents the necessity of training their children to an unsparing use of the tooth brush, as soon as they are capable of managing it; and of the importance of subjecting their teeth to an examination on the part of the dentist at an earlier period than is usual, even with those most particular on this point.

With the assistance of finely pointed probes, defects in the enamel, so minute as to escape the most thorough visual examination, can be easily demonstrated, and incipient decay arrested. Though the orifice may be so small as to barely admit the most delicate probe, it should receive immediate attention, even when the teeth are but half erupted; for, beside the possibility of its being but the capillary opening to a large cavity, we have seen that there is reason to apprehend an early exposure of the nerve. And this can only be prevented by prompt measures.

In introducing a filling under such circumstances, care must be observed not to exert a very great amount of force, for, as the fangs are but partially developed, there is danger of inducing considerable irritation at their extremities, and possibly a destruction of the vitality of the pulp. A filling thus introduced should be regarded as a temporary operation, to be replaced by a more complete one at the expiration of a few years, when the tooth is perfectly formed. Too often, however, our services are not demanded until the denudation of the pulp.

After having for several years, with many regrets, followed the usual course pursued, of extracting these teeth when thus situated, I some six

years ago, with many misgivings of the ultimate success of the operation, and in opposition to excellent authority, commenced the treatment of exposed nerves in the mouths of patients between seven and eight years of age.

That very plausible arguments have been urged against the course, can not be denied. (The imperfectly developed character of the tooth, its large foramina, and the possibility of periodontitis being established.) In reply to these objections, I would direct attention to the fact that by this time these teeth have been erupted nearly two years, and the foramina are very much reduced in size, and if periodontitis manifests itself, it can be combatted with proper remedies. Unfortunately the choice lies between the immediate extraction of the tooth, or the destruction of the pulp, and, as the former operation can be readily performed should the latter prove unsuccessful, it is certainly advisable to make the attempt.

The plan of treatment that I pursue, is to apply the arsenical paste on a small pledget of cotton to the exposed nerve for 18 hours, and then remove the devitalized tissues. After washing out the pulp cavity freely with tepid water injected by the syringe, if the flow of blood is profuse, the tooth is left entirely open until the following day, so as to admit of its free egress; for, if dammed up, it would be likely to induce inflammation in the external membranes. When the hemorrhage is very slight, the fangs are firmly filled with cotton, and the cavity of decay with white wax. These should be renewed every other day, until the gold filling is introduced. The patient is then dismissed, with strict injunctions to return immediately upon the appearance of a sense of soreness in the tooth when closing the jaws. If this manifests itself, the cotton and wax is removed, and cold water applied to the gums. If relief is not afforded, occlusion of the teeth should be prevented, as this of itself is a source of irritation. This can be effected by adjusting a cap of silver or gold to one of the molars on the opposite side of the mouth, and securing it with a ligature. When these remedies prove ineffectual, the application of two or three European leeches to the gum, will, in nearly every case, arrest the progress of inflammation, and establish resolution. In applying the leeches, the object is not merely to effect depletion, but to induce a counter irritation in the gum, that shall exceed that existing in the membranes.

These suggestions for the treatment of periodontitis, are advanced so as to indicate the proper course to be pursued, rather than to describe what I have found it necessary to adopt, on all occasions

for, so fortunate have been my efforts in this direction, that out of a very great number of anterior molars, treated at an early age, not over three or four have exceeded a slight and temporary soreness, and these were saved by applying leeches, and are now eminently useful.

At the expiration of a few days, after removing the nerves, if the tooth is in a favorable condition, the fangs ought to be filled with gold foil and burnished; white wax should then be introduced into the remaining cavity. In the course of two or three days the operation can be completed. By this means, the time and pressure spent on the tooth is divided, and probabilities of periodontitis lessened.

The favorable results that have attended my own efforts, induce me to recommend the adoption of the same course on the part of others.

For the Dental News Letter.

FACIAL NEURALGIA.

BY R. W. HENDERSON, DENTIST.

Between the respective spheres of the dentist and the physician, there are many points of approximation, and some few of actual contact. These latter form a sort of neutral ground, with which each party should be familiar, not only that each may the more clearly discern the boundaries of his own department, and thus be prepared to fulfil all its peculiar duties, but, also, that when occasion requires, each may be able to replace the other.

One of the most important parts of this disputed territory, is included in the general name of *prosopalgia*, which, though usually considered to belong to the province of the physician, often comes under the care of the dentist, for his professional advice or practical treatment. This treatment, whether purely medical or dento-surgical, must be wholly determined by the nature and cause of the disease, in each particular case. Every dentist needs to be well acquainted with all the various causes of *prosopalgia*, so as to be able to discover the nature and cause of any particular case, and apply the proper treatment, if it belongs to his own department, or even to supply the place of the physician, where required. We propose to supply what appears to us a deficiency in dental literature, in this connection, by giving a concise view of the nature, the causes, and corresponding treatment of the disease called *prosopalgia*, *facial neuralgia*, or *tic douloureux*.

Nature.—The seat of this disease is usually in one of the three branches of the trigeminus, tri-facial, or fifth pair of nerves; of which the ophthalmic branch is distributed to the orbit, the lachrymal gland and integuments and muscles of the forehead; the superior maxillary

branch is distributed to the upper jaw and side of the face, while the inferior maxillary is distributed to the tongue, and to the muscles and teeth of the lower jaw.

Prosopalgia occurs usually in paroxysms of intense pain, of a beating, throbbing, plunging or lancinating character, in the temple, over or under the eye, before the ear, along the course of the upper or lower jaw, or over the whole side of the face. These paroxysms sometimes return with great regularity, at particular seasons of the year, as the spring or fall; they may also return with equal precision and violence, at a particular hour of the day or night, and as regularly disappear; or they may continue, unless relieved, with greater or less intensity for days and weeks, and even months. The neuralgia may be fixed in one spot no larger than a sixpence, or it may rapidly change from one place to another, or gradually extend over the whole side of the face. It is often exceedingly obstinate, and in some melancholy cases, where no special cause could be discovered, has proved utterly incurable. It is called *local*, where it results from affections of the face, mouth, jaws or teeth; *functional* or *sympathetic*, when it appears as the manifestation or result of disease in some other organ, as the stomach, liver, etc., or in some other portion of the nervous system; and *constitutional* or *idiopathic*, when it comes on spontaneously, or as the result of malaria, or cold, or of a rheumatic or arthritic habit. Considered as a disease of the nervous substance, prosopalgia is usually a functional, seldom an organic derangement; still more rarely does it become a structural disorganization. This is evident from the suddenness of its accession and departure, and from the fact that at the expiration of the most severe and protracted paroxysms, the nerves are left unchanged in action or sensation.

Causes.—Prosopalgia has been attributed, with more or less reason in particular cases, to repelled eruptions; to inflammation of the nerves of the affected locality; to a phlethoric state of the vessels of the neurilemma, or those accompanying the nerves through the bony canals from the interior; to caries of the jaw or teeth; to disease of the encephalon; to irritation of the spinal column, or ganglionic centres; to hysteria, or disturbance of the uterine functions in women; to derangement of the stomach and chylopoetic viscera; to mental or moral excitement which exhausts the nervous system; to the excessive use of coffee, and of tobacco; and to quinine or mercurial cachexia. It may be caused by wounds, either surgical or accidental, often at a distance from the sentient extremities of the nerves; or by any foreign body, or other source of irritation in the trunk of the nerve. And it may appear in consequence of severe debilitating losses of the vital

humors; or even from want of sleep. Some of these causes merely develop a pre-existing or hereditary disposition to this disease, which may occur in young and phlethoric, or in very nervous persons; in strong and robust, or in excessively debilitated constitutions, especially in those which are hereditarily rheumatic or arthritic. We shall speak more particularly of the most important of these causes of prosopalgia, as we proceed to the consideration of its proper

Treatment.—No general rules can be laid down, since the treatment of each particular case must be governed by its cause so far as that can be ascertained; but it will, of course, be greatly facilitated where it is possible to fulfil that first indication of all treatment, whether medical or surgical, *tolle causam*, remove the cause. The cause may sometimes be readily discovered and easily removed, and with it the whole disease; while in other cases the cause may be very difficult, or absolutely impossible to discover, or to remove; or the disease may still continue after the apparent cause is, more or less, completely removed. Where prosopalgia appears in connection with decided functional disturbance of the stomach, liver, bowels or womb; or with any other disease, whether local, as in the jaw or teeth, or general, as in the cerebro-spinal system, there is little difficulty in discovering the efficient cause, which must suggest the corresponding course of treatment. But where the prosopalgia is the only apparent disorder, the mode of treatment is less obvious, since the disease may be either idiopathic, or dependent on some unknown and unsuspected lesion. It is for this reason we enumerate so many causes of prosopalgia, that an obscure case may be diagnosed by the method of elimination. But for our present purpose of pointing out the great principles of treatment which may comprehend every variety of case, we arrange all these causes, the unknown as well as the known, (and thus all the kinds of the disease itself,) in three classes, the *local*, the *functional*, and the *constitutional*.

I. The local causes of prosopalgia may be divided into the dental and the accidental. The former includes carious teeth and stumps, and various diseases of the jaws and gums. Sometimes a single stump is so completely covered by the gum as to be forgotten by the patient and in danger of being overlooked by the operator. Says a writer in the London Lancet, "I lately had a case (of prosopalgia) dependent on a stump which was in the upper maxillia, and it was one of great severity and difficult to diagnose. The stump was covered over by the gum, except a small aperture hardly wide enough to admit the head of a pin. I ordered extraction and the disease vanished."

The wisdom teeth may cause intense prosopalgia, both in cutting and

decaying ; still more when, as is not unfrequently the case, the latter of these two processes accompanies or even precedes the former. In either case the exciting cause can be diagnosed only by a careful and intelligent examination, since the offending tooth often appears quite unaffected. During the period of cutting the *dentēs sapientiæ*, usually between the ages of eighteen and fifty, (the very period in which people suffer most with neuralgias,) the person may suffer with stiffness of the neck and a sensation of fulness in the head ; as the tooth advances the gums become hard and stretched, and the darting pains along the nerves of the face, temple and neck, are very severe, sometimes accompanied by salivation, noises in the ears, discharges from them and deafness.* All these symptoms may be at once relieved by freely lancing the inflamed gums. The diagnosis of prosopalgia from the decay of these teeth, is still more difficult, not so much from the fact of this decay beginning before the appearance of the teeth, as from the pains being rarely felt in them, but in the bicuspid or cuspidati, or even in the chin. These hints will show the necessity of the most careful and thorough examination of the mouth, in order to detect in its hiding place, the exciting cause of this painful disease.

The other local causes, such as wounds, cicatrices, &c., &c., being more palpable are less liable to be overlooked. We will only add in this connexion, that in those obstinate cases which resist alike all constitutional treatment and all local or specific applications, there is always reason to suspect existence of some obscure cause of irritation which must be looked for in the course of the affected nerve, and which will often be found at a distance from the apparent seat of the disease. And the reproach which is cast on the so-called local modes of treatment, consisting of the external application of veratria, strychnine, belladonna, aconitine, tobacco, &c., comes not from their not having, each of them, made splendid cures, but from their having been unsuccessfully employed in cases where, from the constant presence of some local source of irritation, they were, of course, incapable of doing any good.

II. *The functional causes of prosopalgia*, which constitute our second class, most frequently consist in derangements of the digestive organs. But it is not a simple or isolated case of indigestion which ordinarily brings on this formidable disease. This derangement must become chronic, involve the liver, and thence induce an inactive state of the bowels, in which the *fæces* sometimes accumulate for a long time unnoticed, and to an enormous extent. In some of the worst of these

*Dr. Castle.

cases of scybala, the removal of the hardened mass, perhaps by taking off the pressure on the facial nerves, may at once relieve the prosopalgia. But in others, this disease is the result of a general derangement of the digestive functions, which must be, more or less, removed before the neuralgia will abate; and this will require a long continued and skillful treatment. Still the various forms of constipation comprise the most common causes of functional prosopalgia. A person may have a daily stool, and yet so hard and inefficient that the habitual constipation may cause and keep up this disease; or he may have a daily loose evacuation, while, unknown to himself, the upper bowel may be distended by hardened and slowly accumulating scybala, which seem endowed with the power of causing the most intense prosopalgia, as if on purpose to remind us of their dangerous existence and growth. The characteristic of prosopalgia from this cause is, that it gradually increases in extent and severity (with the gradual increase of its cause) and becomes diffused over the whole face.

The long train of symptoms, which, beginning with indigestion, ultimate themselves in this form of constipation, and by their reflex influences bring on this dreadful nervous disease, may be most effectually removed by the tincture of *nux vomica*, given twice a day in the minutest doses. And this potent remedy has a still further recommendation in that it acts directly and specifically on the nerves of the stomach, liver and bowels; and thus removes at one and the same time the primary and secondary causes of the disease, and the disease itself. The worst cases of accumulated scybala may require surgical, or rather, mechanical assistance to bring away the hardened mass which may be distinctly felt through the abdominal parietes, and which becomes so impacted in the bowel as to render it quite incapable of relieving itself. These cases are often successfully treated by continued injections of diluted *ox gall* enemas, by which, (assisted by pills of the desiccated gall,) the hard and dry faecal mass is gradually softened and brought away.

Females, it has been remarked, are more subject to neuralgia than males. This may be owing, in part, to the greater sensitiveness and delicacy of their organization, and in part to the fact that in the womb and its dependencies they have an additional system, which, from its great importance and liability to derangement, becomes the fruitful source of a large proportion of all their sufferings. The simplest hysteria may, and often does, assume the form of a facial neuralgia; and the various grades of functional and structural disease of the womb and vagina are the most constant and often unsuspected causes of the severest prosopalgias. Indeed, some fixed neuralgic pains in the top

of the head are now regarded as positively indicative of uterine derangement. As in disease of the mucous membranes, the inflammation often appears only in the external orifices; and, as in phlebitis, the poisonous matter is conveyed to a great distance from the original seat of the disease, and there forms new abscesses; so disease of the womb, which must be regarded as the great nervous centre of the female organization, may, and in fact often does, manifest itself in any part of the nervous system. And, since hysteria confessedly simulates the form of almost every other disease, how much more probable that it should sometimes appear as a prosopalgia? Such, experience shows to be the fact. But the proper limits of this paper, will only permit us so far to call attention to the various degrees of sensational, functional and structural disease of the womb and vagina in females, as constituting the principal cause of the distressing neuralgias to which so many of them are subject.

III. *The constitutional* causes of prosopalgia form the third division of our subject; but the consideration of this part, together with some notice of the most successful *specific remedies*, both external and internal, must be reserved for another article.

Bangor, Maine.

For the Dental News Letter.

FACIAL FISTULA.

BY J. D. WHITE.

We are induced to give a few cases of fistulæ, which were produced by the roots of teeth, inasmuch as a great number came under our observation after they had been treated for a long time by good medical or surgical practitioners.

External incomplete fistula may occur in the face from many causes, such as diseased bone, lodgment of foreign bodies, or teeth in which the pulps have been for a long time dead, &c. When first we came into the profession, we always thought it "a feather in our cap" to treat such a case after it had been unsuccessfully treated by a medical man. We supposed that a medical practitioner who failed in treating such a case, belonged to the lower order of the profession; but we have lived long enough to find that the best in it are constantly liable to fail, or to give an erroneous diagnosis in the same kind of cases. We have never yet met with a medical practitioner who was fully satisfied that it was only roots of teeth in which the pulp was dead, that produced *alveolar abscesses*, and that they may open through the gum only, or through the face externally.

Case I. Miss ———, about seventeen years of age, presented herself to ask advice about a fistulous opening on the apex of the chin

She was being treated at the time by an *herb doctress*, who agreed with a number of medical men who had been consulted, that it was *cancer*. This doctress intended, after the "*roots were dead, to pull it out*;" and showed the fair patient a number of similar ones with long roots, put up in jars, to illustrate the usual success of her treatment.

Case II. A young lady, Miss ———, about twenty years of age, was brought to us by one of the most distinguished medical men of this city. He submitted the case to us to know whether it was a "medical or surgical case," as he had been treating it for about eleven months. He had tried everything in the *materia medica*, that he could think of, and to no avail. He said, as there were two openings, one on the top of the gum, in the location of the wisdom tooth, and one on the neck, about an inch below and opposite the angle of the inferior maxilla, he could not account for this state of things; both openings had been treated with caustic, and syringed out with various substances, but still showed no signs of healing. We believed the opening on the top of the gum, which was small, to be produced by the gum which had contracted over the root of the wisdom tooth, which had been broken off in attempting to extract it, and that the external opening was the alveolar abscess opening outside. The patient, however, protested against this, that she was sure that the tooth had been extracted entire, and that the dentist showed her the *whole* tooth. This was not the first time that we had been told by patients that the dentist had shown them *a whole tooth* to prove that they had succeeded in extracting, when they were only broken off, and therefore we were prepared for the case. We cut down through the gum freely, and extracted a large root of the wisdom tooth, after which the external opening closed in a very few days without any further treatment.

Case III. A young lady, Miss ———, over twenty years of age, was presented to us by her father, an eminent medical man of our city. She was attacked with an enlargement of slow and not painful growth, in the region between the canine fossa and the infra orbital foramen, right side, accompanied by a slight flush on the cheek. Finally a tumor was discovered, of some size, deeply seated in the cheek, which could be approached from the inside of the lip. An eminent surgeon was called in consultation, and it was pronounced a *melicerous tumor*, which it was advised should be cut out, and which was accordingly done. It was dissected out from the inside. We were told that the whole of the "*sac*" was removed, and a portion of the mucuous membrane also cut away, and the parts touched with caustic, to promote a speedy union; but it did not succeed. We believed that it was caused by

the second bicuspid, of which the pulp had been a long time destroyed. It was extracted, and the parts healed up speedily and kindly.

Case IV. Mrs. ——— called to see us, to obtain an appointment to have some operations upon her teeth. We at the time observed an opening in her cheek, left side, immediately below the infra orbital foramen; it presented a purpled hue, raised somewhat above the healthy surface, with a depression around its border, between the healthy and unhealthy parts. A little serous pus was percolating through the whole surface of the diseased part. We immediately asked the patient to sit down, and we would remove the teeth at once, instead of waiting until the time of her appointment. She was very much surprised, and answered that she did not want any teeth extracted, only plugged. We remarked, however, that it was necessary, to cure her face. She expressed much more surprise at that, as the disease in her face did not depend upon a tooth; that it had been there for about two years, and had been treated by her medical adviser, and two surgeons had been consulted about it, and they had come to the conclusion that it must be cut out, as it was cancer, or would turn to that if it was not already; and she had made up her mind to have it done. We assured her that the second bicuspid tooth in which the pulp had been dead, as we ascertained, for about eight years, was the cause of the difficulty. She had the tooth extracted, and the parts healed up in a short time. In this case, it had never been suspected that a tooth was the cause of the ulceration in the face. This patient's health had been much impaired by the anxiety of mind, and the medical treatment she had undergone, and the low diet to which she had been for so long a time restricted.

Case V. A middle aged lady, Mrs. ———, was sent to us by a medical gentleman of high standing; she had been treated before applying to him by a surgeon, for *lachrymal abscess*, for about three months, but without any signs of improvement. We found that the second bicuspid tooth of that side was dead; there was no cavity of decay, but it was blue, and had a black spot on either side. This tooth was extracted, and when broken open the black spots of both sides stained the tooth entirely down to the pulp cavity, which was filled with a foetid pus. This case was complicated with the antrum, but the parts became entirely healthy in a short time. We might well exclaim here, how can these things be in this enlightened age of medicine? We have given here but five cases, each varying a little in their character, but we could readily add an hundred. These are cases which demand from the medical profession more attention to the teeth, and from the dental, a much closer study of the diseases, which generally come under the head of surgery.

THE DENTAL NEWS LETTER.

JULY, 1856.

CONDENSATION OF GOLD.

We are much obliged to Dr. Clark for correcting our very imperfect description of his method of using cylinder gold. We stated that a loosely rolled one is placed in first, if a smaller one cannot be retained in place, and then this cylinder *may be pierced* with a round, pointed instrument and a smaller cylinder introduced into it, and so on until the cavity is filled. We received this idea from Dr. Rich, who remarked before the Convention held at Philadelphia, when attempting to fill a shallow cavity; and, as we had not heard it disapproved of by Dr. Clark, we spoke of it and tried it in some cases: we then went on to state, that the whole process, with the above exceptions, we ought to have stated, is to begin with large cylinders, and with any kind of an instrument to put them in place, (and as we should have said, against the walls of the cavity,) such as a small piler or plugger, and then using smaller and smaller pluggers and cylinders, until the cavity is filled, ceasing with a very small instrument, and small hard cylinders somewhere in the body of the plug, instead of between the plug and the margin of the cavity. We had already, before seeing Dr. Clark's explanation, discovered that it was an error to attempt to pierce a cylinder to introduce another, as a general practice. In consequence of having said, also, that we could not do the subject full justice in a short article, nor could we, indeed, give a proper idea of the simplicity of the method in writing—five minutes' showing, would, in our humble opinion, do more good than a week's writing—a gentleman called on us from a neighboring city, to ask us to show him how to use it. We remarked to him that it was an error to attempt to pierce a cylinder, but to place them against the walls of the cavity, condensing them latterly, until the cavity was filled. We are very happy to have the instructions we gave him confirmed by Dr. Clark. We have already given a number of experiments, employing more pressure at each effort of the instrument than can be applied in the mouth, and until an immense amount in the aggregate was employed, and with different kinds of gold, and still we did not obtain a very dense plug, or, at least, we did not approximate very closely to that of melted gold; but we have approached it much more closely with the cylinder gold than with any other, and with much less labor.—The following experiments, will, perhaps, be of some use.

No. 1. Cylinder gold, Abby's No. 4 ; weight of plug about 4 grs., (the lateral pressure was estimated as well as the direct ;) number of strokes of the instrument, only thirty-six ; the highest pressure, twenty pounds, and the lowest noted two ; and the aggregate amount, three hundred and eighty-nine.

No. 2. Rope, or twisted gold, No. 4 foil ; number of strokes of the instrument, fifty-five ; the highest pressure, twenty-four pounds, and the lowest noted three ; and the aggregate amount, six hundred and thirty-six.

It will be seen by this, that there was much less pressure in making the cylinder plug, than was employed in the one made with the rope, and yet the cylinder plug was much heavier, or, in other words, much more dense. We have said before that the amount of labor and time spent upon a plug, should be a matter of consideration by the dentist. We cannot bring machinery to our aid, as in many other branches of business, but we ought to approximate to it as nearly as possible, to keep pace with other things ; especially if we do not lessen the value of our operations. The general complaint among patients is, that our operations are so distressingly tedious. We have finished operating for a patient this day, June 17th, who had one crown plug inserted in the first inferior molar, right side, by an eminent dentist, which they declare occupied two hours in doing, and they were so tired when the operation was done, that they would not consent to have another done, if it required so long a time in doing, and that the face was sore for a long time after, and became so blackened under the base of the jaw, as to be a cause of great alarm. Another patient left their dentist when about half through with operations on the mouth, because they could not spare the time to have them completed. We could cite a great many such instances. The first case mentioned, became a source of great pain, on account of the fact that the plug had been placed in, over an exposed nerve, and after suffering for a considerable time, applied to us to have the tooth extracted, rather than undergo the pain of another operation after treating the pulp ; and, besides, as they had been told that the plug had been rendered so very hard that it could not be taken out, nor would it come out in a lifetime ; but we found by cutting into it, that it was not hard except on the surface.

To Subscribers.—Those ordering our periodical, will please write their *Name, Town and State plainly*, and those notifying us of a change in their location, will give their former as well as their present address. This is a matter of some importance to us.

Permanent Enlargement.—It will doubtless have been noticed, that the *second and third* numbers of the present volume, were increased in size *sixteen pages* to each issue. This was found necessary, to enable us to give matter which we deemed interesting. The same necessity exists now, and the same increase has been made in the present issue; and, anticipating no lack of suitable matter, nor of interest, by the profession, in the success of the “Dental News Letter,” we have determined to make this increase a permanent one. Therefore we shall give in the next, or tenth volume, *eighty pages* of reading matter to each number, which will make, at the close, a volume of *three hundred and twenty pages*, and we propose, further, to increase the subscription price to *one dollar and fifty cents per annum*. This, we think, none can or will object to.

With a little more promptness then, on the part of some of our subscribers, and a continued interest on the part of contributors, we can accomplish all we could desire, in making our periodical every way worthy the support of the profession.

J. R. M'C.

Pennsylvania Association of Dental Surgeons.—Owing to the engagements of the Secretary, we are unable to present to our readers reports of several discussions on the subject of “The Membranes,” considered in the Association since our last issue. We the more regret the non-reception of the report, because of the evident attention which had been given the subject by the members. Dissections and the microscope, it was plain, had been freely employed, whilst the requisition of analogies brought from every direction, supported positions, which, by many of the profession, we have little doubt, would be voted quite ultra. Dr. J. H. McQuillen read a paper of some 20 pages, in which was presented a beautiful theory of tissue formation, and, as viewed by him, described the functions of the various membranes under consideration. A second paper was read by a member, in which was described—according to the very peculiar views of the author—tooth formation from its simple cytoblastic condition. In this paper was denied the existence of a lining membrane to the pulp cavity, and as well the existence of a peridental membrane. Rasekkow’s sub-enamel membrane was presented as an anatomical error, and the corticle substance viewed as the ossification of the tunica propriae or cell wall, or enamel membrane proper. Discussions evidencing more theorizing we have seldom listened to; and, certainly, few anatomical or physiological subjects ever underwent more minute investigation.

G.

Accident from a Soldering Lamp.—From the annexed extract from a correspondent in New Orleans, we are pained to learn that Dr. J. S. Clark has been seriously injured, by the explosion of a spirit soldering lamp :

“It becomes my painful duty to inform you of an almost fatal accident that befel Dr. Clark, on the morning of the 22d May, by the explosion of a spirit soldering lamp, which has burned him most seriously. His face, chest, abdomen, arms and fingers, present the fearful effects of the burning fluid, that completely enveloped him in flames. Fortunately, he had the presence of mind to close his eyes and mouth until assistance came, or the most melancholy results would have ensued. I am, however, happy to add, that his physicians consider him out of danger.”

On this subject of accidents from soldering lamps, we feel inclined to say a word, as three or four cases, coming under our own observation, are fresh in our memory, and all of which were attributable, in a great degree, to a want of proper care or caution. In one case, the wick did not fill the spout of the lamp sufficiently tight to prevent the flame finding its way down to the body of the fluid. In another case, an old cotton stocking was used as a wick; this also allowed the flame, or the extreme heat to reach the reservoir. In another, the wick was too short, reaching not half way down the spout of the lamp.

Again, there is great thoughtlessness in using a lamp with the spout pointing directly at the face; also, in filling a lamp while it is burning, all of which is taking an unnecessary risk.

We have no doubt our friend, Dr. Clark, will be able to show, that the accident from which he is now suffering, resulted from some oversight of which he was conscious, but from the absence of accident up to that time, had neglected to guard against.

Lamps should have a spout of good length, should be kept, when using, well filled, and the wick should fit tightly; not so tightly, however, as to prevent the necessary absorption of the fluid, and should extend the whole length of the spout, at least. A vent in the top of the lamp is also desirable.

J. R. M'C.

American Dental Convention.—This convention, it will be remembered, was organized and held its first meeting in Philadelphia last August. The second meeting, as per adjournment, will be held in New York, commencing on Wednesday, August 6, 1856, at which meeting the profession generally are respectfully and earnestly invited to be present. We trust this will be a monster meeting—productive of great good, socially and professionally.

J. R. M'C.

An Introductory Lecture on Dental Surgery, by J. C. Clendon, M. R. C. S., Surgeon Dentist, and Lecturer on Diseases of the Teeth to the Westminster Hospital. London: 1856.—We have been politely favored with a copy of this introductory, which we have read with much pleasure. It is an able production, and gives promise of an intelligent course of lectures. We suspect, in the absence of definite information, that this is the first course on Dentistry at this Hospital. If so, it is an evidence of advancement, and that such have been instituted to meet a want or demand that has made itself felt, and we hope the day is not far distant, when a separate and distinct School for the thorough education of dentists, shall be instituted and sustained, in that great capital of Europe—London.

We could desire that some gentlemen familiar with the subject, would favor us with a communication, detailing the state of dental education in England—in what Hospitals it is publicly taught, and for how long a time, with other facts pertinent to the subject. And, perhaps none could better do this, than the gentleman above named. It would afford us much pleasure to receive such a paper. J. R. M'C.

Baltimore College of Dental Surgery.—See advertisement of this School on cover.

We notice, with much pleasure, the appointment of Dr. Maynard of Washington, to the Chair of Principles and Practice of Dental Surgery, in this College, and look upon it as an important acquisition to the school.

J. R. M'C.

Twelfth Annual Announcement of the Ohio College of Dental Surgery, has just been received, and gives promise of continued energy and devotion, on the part of the faculty, to the great interests of dental education. We wish it what it richly deserves, a liberal support. See their advertisement on cover.

J. R. M'C.

Helm's Ratchet Lathe.—On cover will be found an advertisement of this new lathe. We can say of it, that for power, speed and compactness, it is all that could be desired, and forming, altogether, a very efficient apparatus for the purpose designed.

See cover for advertisements of Pennsylvania College of Dental Surgery—Dental Depots—Mechanical Dentist—Hospital for Diseases of the Chest—Cherry Pectoral, etc.

Dental Practice for Sale.—We would call attention to the advertisement headed as above, which will be found on cover.

EXTRACTS FROM THE DENTAL PERIODICALS.

BY J. R. M'C.

American Journal of Dental Science, for April.—In a short article “On the Treatment of Teeth when the Nerve is endangered by Caries,” by J. L. Williams, of Boston. The writer refers to the “protecting and recuperative power of nature,” and gives the following method of practice :

“I prejudged, that, in cases where the nerve being very nearly exposed by the advance of decay, if the diseased action could be retarded, the pulp would improve the time so gained to throw out its defence against the approaching danger in the form of secondary dentine.

“With this idea, I commenced the trial. At first, after removing as much of the caries as could be done without injuring the nerve, I made use of various applications having a tendency to arrest or retard decay ; but later, adopted astringents and chlorine solutions mainly ; which I still continue with a success that often surprises me.

“The cavity having been thus prepared and treated, is made dry and stopped* temporarily, for from two to six months, the time depending on the apparent activity of disease ; when the stopping is removed, further excavation made if it is found safe to do so, the applications renewed, and the cavity again stopped.

“This process is repeated until the caries ceases to be active in its character, and a solid floor of dentine is found in the cavity. Then thorough excavation is performed and a permanent gold filling put in. The tooth thus retains its full natural health and permanency, as if the nerve had never been endangered.

“I find the most convenient material for a temporary stopping, to be gutta percha, with sufficient fine spar or silex mixed with it to remove its elasticity when warmed. A portion of oxyd of tin, mixed with the same, renders it perhaps more preservative, but may be objectionable from its liability to produce discoloration.”

In a note to us by the author, he expresses his willingness to answer any communication in regard to the minutia of the treatment proposed.

“Sketches of the Knowledge of Teeth—The Origin of Medical Science, by Geo. Hayes, Esq., London.” This is a very interesting sketch, and one which we would be pleased to transfer in whole to our pages, (the only way in which we could do it justice,) but for want of room. It gives some facts as to the antiquity of the dental art, and of its first operators, and other items of like interest, highly instructive.

* I use the word stopping, for the temporary, and filling, for the permanent operation.

Dental Register of the West, for April.—Much of this number is occupied with a full report of the “Twelfth Annual Meeting of the Mississippi Association of Dental Surgeons,” which was held in Cincinnati, in February last. A small portion of these proceedings we gave in our April issue, and now make additional extracts from the same.

In the report of the Committee on “Dental Progress,” in alluding to the improvement in the dental journals, on the score of bitter personal discussions, they say—

“The prolonged and disgusting quarrels, the personal abuse and vituperations, are now seldom seen in their pages. We are glad to be able to state, that articles of the class referred to, if written, have been, except in a few cases, for the past year excluded from the periodicals.”

We give this extract as a fact of great importance, and, we think, highly honorable to the periodical press; but we can assure the committee and the profession, that this improvement has not been accomplished and maintained without many annoyances to those conducting the various journals, resulting from a pretty stringent and determined censorship; at least, such has been our experience. The improvement, however, in this respect is marked, and therefore deserving the expressed commendation of the profession at large.

A series of questions were propounded by the executive committee, which were taken up separately and discussed, the substance of which we shall now endeavor to give.

“3d. Question.—What are the best means of drying out cavities?” In answer, the various substances usually employed, such as cotton, bibulous paper, buckskin shavings, warm air injected into the cavity of the tooth with a blow-pipe,—having a chamber, under which a spirit lamp may be held,—napkins with watch-spring folded within to secure close pressure upon the parts adjacent, etc., were all suggested, with the degree of success attending the different speakers with the different methods employed.

“4th Question.—Has block work any advantages over single teeth, and if so what are they?

“Dr. Griffith said he had no experience in block work.

“Dr. Goddard used generally single teeth.

“The rest of the members generally used single teeth.”

“5th Question.—What are the best methods of, and the best instruments for, separating teeth preparatory to filling.” Here the various methods were suggested, such as filing, cutting away with chisels, wedges of wood, cotton, rubber, etc., each advocating, with more or less force, his peculiar method.

To the question whether any "knew of cases in which teeth had to be extracted in consequence of inflammation resulting from wedging." The answer was—"No one knew of any such cases."

One gentleman "had always found it best to produce the requisite space by wedging as quickly as possible—say in one day." Others "thought the quicker the process was done the more certain the inflammation."

"The question—How can the color of natural teeth that require filling be most effectually preserved? was then taken up and discussed.

"Dr. Bonsall stated that where the nerve had not been exposed, there was no danger of a change of color. He had sometimes used some substance of a light color, as a thin piece of horn or oiled silk, in order to prevent the gold from showing through, where there was little except the enamel left, but the result had not been satisfactory. The only reliable method that he had found of filling such teeth was to clean the cavity out carefully, and fill even to the end of the fang with gold.

"Dr. Griffith had never tried to hide the gold. He thought it better to show the gold in a healthy tooth than by trying to hide it, to introduce some destructible substance and thus render the tooth unhealthy.

"Dr. Goddard had never tried to hide the gold. He doubted whether it could be done.

"Dr. Taft spoke of the various methods that had been used for this purpose, as the introduction of horn—of paper—and of plaster of Paris; but he had never experimented with any of them. Properly inserted fillings had sometimes become black after a certain length of time. He was at a loss to understand the cause.

7th Question.—"Is gutta percha reliable as a base for artificial teeth?" We have already given an abstract from the discussion on this subject in our April number.

8th Question.—"Can artificial teeth, when moulded on a porcelain base, ever be worn with advantage?"

Dr. Taylor thought, from his knowledge of porcelain, that they could.

Dr. Horton said, "that porcelain could be used as a base to great advantage in some cases, there was no doubt, but he did doubt whether it would ever come into general use."

9th Question.—"What are the various pathological conditions of inflamed dentine, and what circumstances modify its treatment?" We gave some extracts from the discussion on this subject in our last number, and now add to them.

"Dr. Horton, in filling teeth, had found, that bone of a hard, opaque appearance, or of a reddish one, could always be cut out with impunity. A lighter shade indicated very little inflammation, but when

very white it was always very sensitive. He related a case of sensitiveness in a tooth after the nerve was destroyed. After destroying the nerve, he took it out in the evening, without pain to the patient, but it was too late to fill the tooth that day. The next day the patient came in and sat down to have it filled, not dreaming of any pain, but the moment the instrument was inserted to cleanse it, he started as if it had touched the nerve. On examination, a portion of the wall of the cavity looked very red, and appeared to be bleeding. But it was not—it was only the inflammation; for he could not get the least stain of blood upon his cotton. He would ask Dr. Taft how that sensitiveness, after the nerve had been removed, was to be accounted for?

“Dr. Taft.—It had not been entirely removed—a part of it must have remained.

“Dr. Horton was sure the nerve had *all* been removed.

“Dr. Taylor related an instance of extreme sensitiveness in a patient, where the nerve had been entirely destroyed.

“The patient believed that the introduction of the instrument hurt him when it was not possible. He took pains to show him the extent of the cavity, and how far the instrument had been previously introduced, and after that he experienced no pain. It was all the effect of imagination—the action of the sympathetic nerve on the brain—for he felt assured that when the nerve was destroyed, all sensibility must cease. It could not be otherwise.

“Dr. Horton rose to state, with great particularity, the circumstances of his case. He was certain the nerve had all been removed, and equally sure that his patient felt actual pain when he introduced his instrument. His patient was not, by any means, a timid, nervous or imaginative man.

“Dr. Watt thought the pain came from the nerve that originally supplied that tooth. Pain was really felt there, and imagination placed it not where the nerve then stopped, but where it had originally terminated. He related an instance, in which he had removed the nerve from a right central incisor. He cut the top of the tooth off, had a good opportunity to remove it all, and was quite sure he had done so. On the second call of the patient, the introduction of the instrument produced intense pain. She was a timid, nervous lady, and she accounted for it by saying, ‘Well, I was always very nervous, and I expect the nerve has grown out again.’”

When a nerve was cut off, inflammation took place at the point of separation and caused pain, which was felt, not where it originated, but where the nerve had recently terminated. The patient’s imagination had not yet accommodated itself to the new condition of the nerve.

“Dr. Ulrey would ask if it was not possible to cut off the nerve and leave live ramifications of it through the dentine? Teeth were well known to be highly vascular bodies, full of life. That blood circulated through them, we all knew, for it was sometimes forced in, in such quantities as to cause discoloration. Indeed, they were so full of vitality, that the great and almost the only effectual method of destroying it was by *poisoning* the life out.

“Dr. Griffith had invariably found the tooth sensitive immediately after the nerve had been destroyed. All inflammation could not be

immediately destroyed by killing the nerve. At the apex of the fang sensibility would remain, because the great arterial trunk was there. As acids acted readily on the dentine, a soreness would remain as the consequence of their use. A good remedy for this he had found in the bi-carbonate of soda, and had advised his patients to use it in such cases, to destroy the *effect* of the acids.

“Dr. Jos. Taylor would ask: If ramifications of the nerve did remain in the dentine, how could they communicate pain when totally disconnected at the point of the tooth? You could not communicate pain from a dead body to a living body without a connection.

“Dr. Griffith would answer this by asking another question: Was not the tooth supplied from other quarters? The life of a tooth might not be entirely destroyed even when the nerve was destroyed.

“Dr. Jos. Taylor had never, in thirty years’ practice, found any tenderness in the actual dentine of the crown after the nerve had been destroyed. The most he had ever found was sometimes a little sensibility at the root.

“Dr. James Taylor said: It has been demonstrated that the pulp was not always dead when the nerve was cut off at the point. He related an instance, in which he had extracted a tooth where there had been a separation at the point, and on splitting it open, he found that it contained blood. The circulation seemed to have been kept up through the periosteum. It was important to know whether this was a vital circulation. He hoped the members of the profession would take the pains to split open and examine such teeth whenever they extracted them.

“Dr. Taft thought, as attention had been directed to this subject, the members would probably all know more of it next year. He hoped, therefore, that the question would not be disposed of at this time. This hope was also expressed by other members, and the discussion of the question suspended here with an understanding that it should be recommended for discussion next year.

“Question 10. What is the *modus operandi* of arsenic, chloride of zinc, nitrate of silver, creosote, tannin, etc., when applied to inflamed dentine?

“Dr. Bonsall thought that tannin, being an astringent, and having a different character from all the other agents named, ought not to be classed with them.

“Dr. Ulrey thought it enough to say of most of them, that they were poisons, and the manner of their action was simply to poison the life out of the bone. There was always danger that arsenic would destroy the tooth. If left in a little too long, it was sure to do so.

“Dr. Watt said, that nearly all these agents, or the majority of them, at least, were of the class known as escharotic remedies. Their tendency was to produce the death of the part—which tendency was counteracted by the vital action. We all knew that nothing but the vital force of the stomach protected it from the gastric fluid. The loss of vitality in one part, however, always produced a change of action in the surrounding parts.

“Escharotics were divided into two classes—those which were absorbed and passed into the system, and others which were not. Arsenical and mercurial preparations were liable to absorption, while

chloride of zinc was not. He never applied arsenic to inflamed dentine, for, after using it, such was the appearance of the tooth, that he never could have any means of knowing whether he had excavated all the effected parts or not.

"[The first part of Dr. Watt's remarks embraced a careful chemical analysis and description of all the agents mentioned, but abounded so much in scientific and professional terms that the reporter was not able to follow him with any accuracy.]

"Dr. Richardson spoke of the difficulty of knowing the extent of the effect of the arsenical preparation, and related an instance in which he had probably not excavated sufficiently.

"Dr. Watt thought no definite line of absorption could be found.

"Dr. Taft thought it was impossible to tell anything about the absorption of arsenic. It could reach the periosteum in two ways—either by the walls of the canal or by being taken up by the pulp. The rapidity with which it was taken up would depend upon the action of the fluids. In young persons, where the tooth was very vascular, it was taken up with great rapidity, and the tooth frequently destroyed. He seldom used arsenic for this or any other purpose except to poison rats. Chloride of zinc or nitrate of silver left the adjacent parts healthier than before, but arsenic destroyed vitality as far as it went.

"Dr. Taylor could not agree with the gentlemen in all of the positions taken. He, however, never used arsenic in inflamed dentine. He did not think inflamed dentine ever ought to be treated with any such preparation.

"He had wished very much that some substitute could be found for creosote, which he was using more and more every day. He valued it very much for its antiseptic properties.

"Dr. Griffith had used arsenic extensively, and from the experience he had had with it he intended to continue to do so. He claimed to have no chemical knowledge of it, and had therefore no prejudice against it. All his knowledge of it was derived from experience. It was true, it was a poison, but there were antidotes for all poisons. As beneficial as he had found it in his practice, he well knew that it might easily be used in such a way as to destroy the tooth. He had used it for the last eighteen years, and in more than a thousand teeth—had always employed it with charcoal and creosote, and always with success.

"A number of the members having expressed a desire to hear subjects 9 and 10 more fully discussed, they were, on motion, referred to the Executive Committee, with a recommendation to place them on the order of business for the next annual meeting.

"By request, Dr. Goddard then gave an account of an interesting and singular case of excrescence of the gum, for which he operated, in the Hospital, at Louisville; but as the Doctor, to gratify the wishes of a number of the members, engaged to write a full account of it for the *Dental Register*, it is not necessary to give the facts, in regard to this very curious case, here.

New York Dental Recorder.—In the number for April we find an editorial noticing the then contemplated formation of a Dental Society

in St. Louis; also the establishment of an Association in Michigan, the past winter, after which he goes on to say:

"This is a step forward. Who will help the Dental profession in New York to a little "brotherly love?" Why cannot a Dental Society be established? Have we not the men? Then we have *no Dentists* worthy of the name. What is to prevent us from establishing a useful and respectable association? Who is there ready to sacrifice self interest—personal jealousy—vain glorious pride, and many other *useless* things for the sake of benefitting the profession to which we all owe so much? If there are *any such*, then we have the men who can and who *ought* to take the initiative in this direction. Dentists of the City and State of New York, let us hear from you on this subject."

Now every word of this we can fully endorse. It breathes the right spirit, and adds strength to the hope that all estrangements may be removed, and unity of action and feeling take the place of selfishness and antagonism. But, alas, alas! (what forgetful mortals we are,) a change takes place, for in the succeeding or May number, we find an editorial which we must deem, to use the mildest term, discourteous to a valued correspondent of ours, and evincing anything other than a spirit of "brotherly love," or brotherly feeling, and which, under the circumstances, is unkind and ungenerous and much to be regretted; and the facts amply warrant the paraphrasing the editor's words in the above quotation, as follows: "who will help" the editor of the New York Dental Recorder "to a little brotherly love," or a degree of respect for those who may honestly differ with him in practice or opinion. Oh, for a little "brotherly love."

The Dental Obturator, for June.—In this number we find another of the series of articles by its editor, "On Filling Teeth," which gives additional information and explanation on the subject of cylinder filling; also, a communication on the preparation and use of "Cylinder Fillings," by Jas. S. Knapp, D. D. S., in which the writer claims what we suppose cannot be objected to, viz: that to Dr. Clark belongs the credit of having originated this method of preparing and using gold in filling.

"Obturator Chips, No. 4," (a peculiar caption for a series of spicy remarks,) contains some strictures upon the valedictory address delivered before the graduating class of the Baltimore College of Dental Surgery, based on the following paragraphs:

"On bidding adieu to the faculty of the College and to each other you will enter upon your professional duties, wherever a disposing Providence shall place you, as educated and authorized and practiced operators, in the several departments of your profession.

"You will be confident that you have explored the stream of knowledge to its source, descended into its mines to their lowest stratum, and that what you have not had an opportunity of learning in the science and art of dentistry, in its present state of advancement in this country, IS NOT WORTH BEING EITHER SOUGHT OR KNOWN. THIS CONFIDENCE will give you indomitable energy, and this energy will give you 'UNQUESTIONABLE SUCCESS.'"

To which he objects, and says, colleges teach "*merely how to study*. They only open the *great book* and when the last act of the alma mater is performed, she merely introduces the graduates to a *student life*," etc.

Were we to venture a remark, we would say, that while much that is practical as well as theoretical, is taught in the colleges, very much more is still to be learned, of which the graduate has but the "key note." The claim, therefore, set up by the author of the valedictory seems to us simply very extravagant, entirely unwarranted, and calculated to do harm.

This number of the *Obturator*, like its predecessors, is lively and piquant, and like its proprietor, monstrous independent.

We are just reminded here of some remarks made to us by several young practitioners to the effect that they had been trying gold foil in cylinder form, as described by Dr. Clark, and that they were satisfied that they could get much more gold (one says a third more) into a given cavity with it, than with any other form, and, of course, were very much pleased with the result.

"*The Dental Annual*."—This is another of those "*three-by-four*" pamphlets, designed exclusively to puff the compiler into practice.

We make but two extracts, which will probably give as correct an idea of the character of the affair as any other matter to be found in it, and which concerns the patient or public, or *patient public*, more than any thing else in it. They are as follows:

"Patients will find a table in the hall at the head of the stairs which is designed especially for bonnets, hats," &c.

"Patients are requested to bring with them an old linen handkerchief, *perfectly clean*, to be used in drying the mouth before the insertion of plugs."

A word of comment would be superfluous.

Aluminium.—"M. Deville presented a new memoir on the preparation of aluminium; the only important novelty in which appears to be the fact that the alkaline fluorides (such as fluor spar) appear to be the best fluxes for the metal. They are now making aluminium from cryolite, a double fluoride of aluminium and sodium, which occurs somewhat abundantly in Greenland."—*Jour. Franklin Institute*, from notes from the Academy of Science at Paris.

SELECTIONS AND ABSTRACTS FROM MEDICAL JOURNALS.

BY S. S. WHITE, D. D. S.

A Case of destruction of the entire palate successfully relieved by mechanical means. BY EDWIN SERCOMBE, ESQ., M. R. C. S.—The author stated that he had no intention to refer to the form or character of the disease which produced the consequences related in this paper, but that his sole object was to establish the fact, that it is possible to restore, by mechanical contrivance, one or more portions of the face which may have been destroyed by disease or injury. Mr. Sercombe's patient had been driven from a post of public duty which he had adorned, after fourteen years of terrible suffering, fearfully disfigured, and rendered quite unintelligible to those around him. The progress of the disease and present condition of the patient were thus described:—The soft parts in the fauces were attacked with the most virulent ulcerations, and sloughed away in masses. The upper front teeth became black, and several were removed; the gums ulcerated, and the alveolar processes exfoliated. In this way the upper incisors, canines, and bicuspid were lost; three molars remaining on one side, and two on the other only. The ulceration next crept forwards to the face; the nose was attacked, and partially destroyed; the lips completely so; indeed, the whole of the face below a straight line drawn from one meatus auditorius externus over the lower margin of the nasal bones to the other meatus, was subjected to the same destructive process, and was intersected in every direction with cicatrices. The inter-maxillary and palate bones exfoliated in large pieces, accompanied with serious hæmorrhage from the palatine, and other smaller arteries. The vomer and central lamella of the ethmoid also disappeared. Considerable portions of the inferior maxillary bone exfoliated, and all the teeth, save one canine and two incisors were lost. External examination of the face showed partial destruction of the alæ nasi, particularly of the right side; complete loss of both lips, as the band stretching across in the place of the upper lip scarcely deserved that name, being a firm, unyielding mass of abnormal tissue. The cavity of the mouth was thus at all times exposed through an irregularly oblong opening, on the lower border of which stood the three teeth of the lower jaw. The effect of the formation of the cicatrices which covered the face in all directions had been to contract it at least one inch and a half, measuring in a straight line from the margin of the hair on the forehead to the lower border of the inferior maxilla; added to this, the greater part of the hole leading into the mouth was placed very much to the right of the mesial line, and the rigid condition of the cicatrices prevented the lower jaw being depressed more than the eighth of an inch. The paper was well illustrated by casts and models, both of the face before the commencement and after the arrest of the disease, and of all the appliances so successfully contrived by the author. Such was the most unpromising state of things when Mr. Sercombe was introduced to the patient. His first intention and utmost hope was to contrive an obturator which should render the wearer intelligible to his own family and friends. The first step was to remove the three teeth already alluded to, as, previous

that being done, a single finger could not be introduced into the mouth. Still much more space was required to work in, and an attempt was made to enlarge the opening towards the left ear by an incision of from an inch and a half to two inches. This proved, however, unsuccessful, in consequence of the contraction of the wound during cicatrization. It became clear that the ordinary mode of moulding the whole, or even half the jaw, could not be employed in this case; for it was impossible to obtain a model in one piece. After ingeniously overcoming this difficulty by the introduction of separate portions of softened wax, and forming a model of the whole combined in plaster of Paris, a gold plate was fitted to each: but much difficulty was experienced, and great patience and ingenuity exhibited before the true relative positions of the two side plates, and thus the size and width of the centre plate, or palatine arch, could be determined. It was eventually obtained by the use of a plate of Britannia metal, which could be easily moulded with the finger. In this way the working model was obtained upon which two lateral and a centre gold plate were formed. They are introduced into the mouth separately, and firmly joined together when *in situ*; the central one to that on one side by a grooved border, to that on the other by a hinge into which a fine gold pin fits, one division of the hinge being on the lateral piece, and two others on the central. The tongue assists in placing the parts *in situ*, and it is effected in less than two minutes. Although by this means the voice was at once restored, articulation was still imperfect, and it was determined to attempt to supply an artificial soft palate, and after numerous fruitless experiments, one was conceived of vulcanized india-rubber, which was as successful as could be expected in the absence of lips. To the restoration of the lips, Mr. Sercombe, therefore, next directed his energies, and in the first place again resorted to vulcanized india-rubber, thin gold bands being secured to each lip, by which the wire attached the upper to the centre plate, and the lower to a plate fitted to the lower jaw for the express purpose of carrying this lip, by which arrangement they could be placed *in situ* and removed at pleasure. With the apparatus thus completed, the power of distinct articulation was, within a week, so far restored, that the patient returned to the country to resume duties involving public speaking, from which he had been for so many years entirely excluded. Some modifications have been rendered advisable, because, during the last twelve months, the material covering the chin has become softer, fuller, and more movable, presenting grounds for hope that ultimately a useful lip will be formed; in order not to interfere with this progress, the lower artificial lip has been dispensed with. Ivory has been substituted (without any disadvantage to the voice or articulation) for india rubber in the upper lip; the latter material was found to soften and decompose at the edge, and the paint with which it was colored, to imitate the skin, peeled off. The ivory has also these advantages, that it can be more firmly fixed, and teeth, showing below the lip, may be attached to it. The apparatus has been worn for nine months, and in a letter recently, the patient stated his voice to be as good as he could possibly expect—almost as good as he could wish. This, however, was not the only advantage gained; the apparatus has been found to effectually prevent the passage of fluids from

the oral to the nasal cavity during deglutition. The sense of taste, which was lost, has been restored; that of hearing also, which was completely destroyed in the right ear and nearly so in the left, has been fully restored to the latter, although it remains unimproved in the former. The cause of deafness would seem to have been the extension, through the eustachian tube, of a dried and thickened condition of the mucous membrane of the pharynx, induced by constant direct exposure to the atmosphere at the ordinary temperature. Mr. Serecombe concluded his paper with these remarks: First, that it matters little how long or wide the cleft may be, an obturator can be as easily adapted to the largest as to the smallest opening, and therefore the possibility of an operation for cleft palate being followed by sloughing, which would enlarge the primary opening, ought not to present any grave objection to its being performed; and therefore, in all cases where there is no contra-indication, the chance of a successful issue should be given. Second, in cases where the fissure is accidental, and not congenital, it requires but that the parts lost be restored, and almost immediately the power of speech is regained. Third, that portions of the face, which may have been destroyed by accidental causes, may be restored by mechanical contrivance when beyond the reach of the surgeon.—*London Lancet.*

*On Dental Irritation as a predisposing cause of many anomalous kinds of nervous affections.**—The author commenced by observing that the organs of the mouth were not sufficiently investigated or regarded under the existence of certain disorders of the nervous system, not traceable to direct lesions of its centres. That it was therefore desirable to remind the Society of the intimate connexion of the teeth with the organs of vegetative and animal life. They had close relations with the mucous membranes; with the vascular system; the brain and external senses; with the spinal cord; and the muscles of the head and neck, through special nervous communications, which it was unnecessary for him minutely to describe. Mr. Levison said it would also be useful to submit data furnished by the various affections incidental to the first dentition, before entering on the consideration of the anomalous forms of disease resulting from dental irritation in the adult. During infancy, for instance, when the first teeth were developed the following morbid conditions occurred:

1st. Diarrhoea from mucous irritation.

2d. Fevers, from derangement of the digestive organs, with increased circulation.

3d. Local inflammation of the mouth, producing thickening of the mucous surfaces, with great vascularity, extending to the eustachian tubes, and inducing temporary deafness, as in the case of deaf mutes rendered such by this temporary disturbing influence, and mistaken sometimes for a congenital defect of parts of the auditory apparatus.

4th. Convulsions resulting from the excitement of the cerebral and true spinal, or excito-motory system.

5th. Fits, involving loss of consciousness and lesions of the brain, with permanent impairment of the mental faculties.

* A paper read by Mr. J. L. Levison before the Harveian Society.

6th. Skin affections often translated to the brain by what is called metastasis ; or such forms of disease as are induced, as it were, by an effort of nature to relieve the cerebral congestion.

The *rationale* of these different results was mainly to be found in the fact, that the weakest organs under such dental disorders were mostly, as a general rule, implicated.

After these prefatory remarks, Mr. Levison proceeded with his communication, submitting, by well-observed cases, that during the destruction of the teeth, whether from inflammation or accidents, there often resulted serious derangement of the lungs and of the alimentary canal. He then gave examples of the converse of these phenomena, proving that when the stomach and bowels were deranged the teeth may become sympathetically or secondarily affected. Mr. Levison then called attention to another class of phenomena, arising from pressure on the dental arches, over-stimulation, and inflammatory states of the system, which induced painful or neuralgic disorders in the neighboring organs, paralysis in the upper eyelid, temporary deafness, disease of the antrum, and of the facial nerves, (*tic douloureux*), and lastly, convulsive action of the muscles of the neck, palsy on one or both sides, and, in some instances, all the voluntary muscles. This portion was illustrated by some very instructive cases. Finally, he commented on the same disturbing agency producing, in the predisposed, hysteria, epilepsy, and periodic complaints, as hemierania. He entered into a physiological and pathological discrimination of these and other forms of disease connected with lesions of the brain and its membranes, and those associated with excrescences at the roots of the teeth, or when there existed exostosis, which he believed might be diagnosed before extraction, when this became absolutely imperative by the urgency of the complications. He concluded by making the following practical inferences or corollary :

1st. That a general knowledge of anatomy, physiology, and pathology was essential to every one devoted to any special practice.

2d. That special practice was essential to the apprehension of particular phenomena, and to distinguish whether the disturbance in any part was of local origin, or the result of reflex nervous action.

Lastly, that in forming a diagnosis of nervous and neuralgic affections, it was necessary to take into consideration all the conditions which might constitute a source of special disturbance ; and when the brain and spinal cord appeared in a normal state, it was incumbent on all to search for the cause in some disease of the buccal cavity.

An animated discussion ensued, in which testimony was borne to the importance and accuracy of the views which had been brought forward, and some interesting facts related in corroboration of them by the different speakers.—*Ibid.*

Formation of bone.—A bone, as we have seen, is formed by concentric layers, and is destroyed in like manner. Let us inquire what are the agents in this formation and destruction.

The *periosteum* is the organ of *formation*.

Duhamel had said “Bones begin by being *periosteum* only, for I consider the cartilages themselves as only thickened *periosteum*.”

Such is no doubt the case, but the experiments of Duhamel, intended to enlighten the subject, are not quite satisfactory. He fractured the bone chosen for experiment; and since a bone cannot be broken without laceration of the periosteum and its vessels, with those of neighboring parts, the pathological phenomena obscured more or less the physiological.

Troja was more careful, (1775,) and added the weight of his testimony to that of Duhamel.

Having sawn across a long bone—that of one of the extremities for instance—he introduced a stilet into its medullary canal, and tore up its lining membrane or internal periosteum. After a certain period, the bone, whose medullary membrane had been destroyed, became *necrosed*; and all around this necrosed body (sequestrum) the external periosteum which had not been injured, soon reproduced a *new bone*; (a thing well known in surgery.)

In this curious instance of organic reproduction, the sequence of accidents is as follows: Immediately after the destruction of the medullary membrane, the periosteum swells and the bone dies; the swollen periosteum becomes divided into *innumerable* layers, of which the most internal shortly assume a fibro-gelatinous consistence; these fibro-gelatinous layers separate from the rest, and are transformed into cartilage; and this cartilage is at length changed into bony substance. *Ossification is thus the gradual change of periosteum into bone.* [See Kolliker's Manual Microscop. Anatom., pp. 326, 327.]

Troja, however, in his experiments, began by amputating the long bones at their middle, as we have seen. But one-half the bone was, therefore, retained for observation, and enabled, consequently, to reproduce itself.

In my own experiments, I have aimed at more—at retaining the whole member.

Having made an opening through the radius of a sheep into the medullary canal, by means of a stilet passed through it, I succeeded in destroying the whole medullary membrane; the radius falling into necrosis, and enclosed on every side by new bone, was gradually absorbed by the medullary periosteum *encasing* it, which lined the internal surface of an entirely *new radius*, enclosed in its turn externally by the *original periosteum*. The new bone is exactly similar to the old one; it presents the same form and structure, and resembles it even in minute detail. Allow me to call attention to this *result of experiment*, the faculty, namely, with which periosteum is endowed, of producing osseous tissue. This fact is one which particularly interests practical science, and will, doubtless, be the starting point of a new surgical system. Periosteum being capable of producing bone, is it not clear that the utmost care should be taken to preserve it intact? Amputation will, consequently, for the future, be more rare; *extirpations* of the *bone* alone, separated from its periosteum, will gradually, but steadily, be substituted for them. Already, even, some skilful surgeons, M. Blandin among others, have successfully practiced *sub-periosteal extirpation*.

M. Blandin removed the entire clavicle in a young man, carefully preserving the periosteum; and *this clavicle has been completely re-pro-*

duced. From the arm of another young man, he removed the superior extremity of the humerus, the periosteum, of course, intact; this portion of bone has been *almost entirely restored*. I do not consider that I overrate the importance of this method when I affirm, that it opens a broad and unexplored region for surgery; and in this connection, allow me to remind you, that the experiments which, *before all others*, I *instituted upon the anæsthetic properties of chloroform*, have passed, as I *predicted*, from my laboratory into surgical practice. This success induces me to hope, that my anticipations with respect to *sub-periosteal extirpations* will be, in a like manner, realized.—*Ext. from Lect. of M. Flourens.—Charleston Med. Jour.*

On the Intrinsic Calcification of the Permanent Tooth-pulp, as constantly associated with Dental Caries.—By S. JAMES A. SALTER, M. D. —Calcification of the tooth-pulp, Dr. Salter states he has found, after numerous examinations, constantly associated with dental caries. The calcification he describes as commencing in the centre of the tooth-pulp, near the extremity of the fang, by the development of minute calcareous nodules, which he designates “calcification islands,” and in which he has not been able to make out either laminae, tubes, or other histological forms. These islands increase in size and number until they become fused together into one calcified mass of “osteodentine,” consisting of systems of dentine around isolated blood-vessels. The surface of the pulp near the decayed portion of the tooth is the last to calcify, and it is on this fact that Dr. Salter principally founds his distinction of the change which he has described, from the “dentine of repair,” as described by Mr. Tomes, in which the dentine is developed on the exposed surface of the tooth-pulp by outgrowths of the superficial vessels. Dr. Salter also shows that, in some cases, the tooth-pulp is converted into *crusta petrosa*; and that, in such cases, there has generally been a preternaturally abundant communication between the tooth-pulp and periosteum.—*British and For. Med. Chi. Rev.*

On Reduction of Dislocated Maxilla.—Dr. Leo strongly recommends the following procedure, on account of its simplicity and easy execution. The surgeon places himself behind the patient, (who is sitting,) on the right side, taking his head under the left arm, and pressing it against the chest. He passes the thumb of the right hand into his mouth as far as the last teeth on the right side of the jaw, surrounding the external side of the jaw with his other fingers, and exerts moderate pressure downwards. As soon as the jaw becomes moveable he presses it backwards. In dislocations of the left side, he fixes the head with his right arm, and replaces the jaw with the left hand; and when the dislocation is double, he reduces first one side and then the other.—*Ibid.*

Death from Chloroform.—Dr. Roberts, dentist, of Edinburg, details in the London Lancet, the case of death from chloroform which lately occurred in his practice, notwithstanding the most energetic exertions, for one hour and a quarter, by Drs. Simpson, Peddie,

Priestly, himself, and son. The most useful means employed were pulling forward the tongue, artificial respiration, and galvanism. In view of the frequent and fatal accidents from chloroform and similar agents, it is singular that the successful experiments of Dr. George J. Ziegler, of this city, (Philadelphia,) on the "antidotal and revivifying properties of nitrous oxide," published in the XLVII. Vol. of the Boston Medical and Surgical Journal, (and to the correctness of which we can testify from personal observation,) have been so completely neglected. To bring them again before the profession, we quote his conclusions on the subject.

Firstly, That nitrous oxide or protoxide of nitrogen is a powerful and direct arterial, nervous and cerebral stimulant.

Secondly, That it exerts a direct chemical influence on the blood, by supplying the essential elements for the arterialization of that fluid, and to a certain extent by inducing that process, thus producing in it similar changes to those effected by the atmospheric air, as proved by the effect on, and character of, the re-established respiration.

Thirdly, That it is in these various modes antidotal to the effects of certain narcotizing agents.

Fourthly, That where vital excitability is not completely destroyed, this remedy has the power of sustaining and increasing it rapidly, and sufficiently to preserve life in numerous instances in which it would otherwise be destroyed.

Fifthly, That it will re-establish life action even after all the usual evidences of its existence have failed, such as innervation, respiration and circulation; provided, firstly, that the muscular contractility, or vis insita of the heart and other tissues is not lost; secondly, that the blood has not coagulated or deteriorated to such an extent as to be insusceptible of arterialization and revivification; thirdly, that there is no organic lesion of any vital part sufficient of itself to prevent recovery; and fourthly, that innervation is still susceptible of re-excitation.

The American Journal for January contains an interesting paper on "Diseases of the Spleen," by Dr. Tebault, of London Bridge, Va., with cases in illustration. The following case from among them exhibits the danger of extracting teeth in a scorbutic cachexia.

Mr. —, aged about 50, a highly respectable gentleman, had labored under splenic cachexy for a great number of years, during the most of which time his condition was as follows: Countenance somewhat bloated, sallow, and interspersed with dusky colored blotches; gums spongy and ulcerated; breath foetid; respiration easily hurried; abdomen prominent and doughy; spleen much enlarged, and rather soft and yielding; its margins depressed, but less so when he lay on the left side; habitual costiveness; urine unusually sparse and orange colored; limbs attenuated; phagedenic ulcers of legs. Pending this time, having himself extracted a loosened tooth, the hæmorrhage consequent thereto was such as to defy every means employed to arrest it, till, as a last resort, it yielded to graduated compresses applied to

the socket, and closely bandaging the jaws. I think he had also had an attack of intestinal hæmorrhage. Such is briefly the previous history.

In the month of October, 1843, he came under my treatment for an attack of bilious pleuro-pneumonia of a few days' standing, during which he had taken physic of his own. There were strong grounds for apprehending speedily fatal hypostatic congestion of the lungs; and thus the necessity was urgent for a frequent change of position, in order to disembarass the respiration. He was deeply jaundiced, while his lips were livid; petechial dots spread over the trunk and extremities; the gums were ragged, and very dark; many of the teeth loose; breath offensive; pulse 90, small, soft, and thrilling; cough urgent; sputa, which was at first intermingled with blood, now rusty; mind perfect. Auscultation was practiced, but no record thereof was taken.

On the fourth day of my attendance his pulmonary disease and general condition had improved. He then insisted, as he had done several times before, that I should remove a molar tooth of the lower jaw, which was entirely out of its socket, and adhering solely by one side of its neck to the outer gums. The tooth interfered with the free action of the tongue, and was the source of much annoyance, especially in the act of coughing. I objected at first, as I had done before; but finding that he threatened to drag it out by means of a string, I made an incision across the ligamentous attachment, which was uncommonly strong, and the tooth was separated. Some hæmorrhage, greater than I could by any means have anticipated, followed; but in a short time it yielded to mild astringents. Some hour in the night I was summoned to him. The hæmorrhage had returned in an alarming degree. For some forty hours, all the means calculated to arrest it were resorted to, but with only occasional and temporary benefit. On minute inspection, not only the point of incision, but the socket and all the capillaries of the gums on the right side were oozing blood, as from a recently cut surface. Compression to the socket did not, therefore, in the least arrest the hæmorrhage. Indeed, it was difficult to tell where all the blood came from. At length, under the joint use of pyroligneous acid, sulphate of copper, and creosote, and a gentle tonic course, the hæmorrhage was ultimately controlled and arrested. Two days afterwards a profuse intestinal hæmorrhage supervened, and soon terminated in death.

Pharyngotomy.—The following is an outline of a case for the relief of which this rare operation was performed by Mr. Cock.

Thomas G—, aged twenty-one, a servant at Dartford, was admitted into Guy's on the 17th of January. He had for some time worn a false tooth, fixed in a plate, which had at one end a spring, attached to the adjoining tooth. During the night of the 16th, this plate and tooth became loose, and while asleep the patient swallowed it. At two o'clock, he awoke up with the pain he suffered. A surgeon at Dartford attempted, without success, to extract the foreign body, and then brought the man up to Mr. Cock, who, on examination, found the tooth and setting to be low down in the pharynx, near its

junction with the œsophagus, but was unable to effect extraction. The patient did not complain of severe pain, except when he attempted to swallow; he was unable to take solid food, and of liquid he could only receive very small quantities.—*London Lancet*.

After ineffectual efforts to extract the foreign body, an opening was made into the œsophagus on the 21st, and the plate and tooth removed. During its inspection, the patient was fed through a gum elastic catheter, passed "between the springs of the plate." Similar accidents are also mentioned, one of which was

"Communicated to Mr. Ferguson by Dr. Little, of Sligo, wherein a gentleman, during an epileptic fit, swallowed five false teeth, with their gold setting. After about four years and a half, death occurred, from a bronchitic attack; and on examination, the teeth and setting were found in the lower part of the pharynx, the semi-circular plate of gold surrounding and distending the top of the œsophagus. Dr. Little had been deterred from attempting any operation, under the dread of causing fatal laceration.' A similar case to the foregoing may be found in the *Northern Journal of Medicine* for May, 1844, related by Dr. Duncan, of Edinburgh, where the sharp point of the metallic setting caused ulceration of the œsophagus, opened into the arch of the aorta, a little beyond the left subclavian, and caused fatal hæmorrhage on the tenth day."—*London Lancet*.

"*Hæmostatic*.—Dr. A. B. Butler recommends for hæmorrhage from various organs, the administration of tannin in solution with elixir of vitriol, in the proportion of four scruples of the former to an ounce of the latter, in doses of fifteen drops three times a day, or more frequently, if the symptoms demand it."—*Charleston Medical Journal*.

Galvanic Cautery.—Dr. Roberts described, before the Royal Scottish Society of Arts, his method for cauterizing the dental nerve, whereby a tooth may be stopped without pain, or a stump become a support for a new tooth; while the use of arsenic, and the ordinary intimidating mode of cauterization, are avoided. He applies a wire to the patient's tooth, and heats it by means of a small Grove's battery.

"The advantages," he says "to be obtained by this instrument are, its easy application to the desired spot in the mouth, and that perfectly cold, instead of alarming the patient by holding a red-hot iron before his face; it being at once raised to the required heat, and no more than the mere point of the wire used being heated; also being at once cooled, on simply removing the finger from the spring."—*Boston Medical and Surgical Journal*.

Deformities of Idiots.—Among the prominent deformities met with in idiots, Dr. Guggenbuhl, according to Dr. Hutchinson, notices the following:

"Irregularity about the arrangement, size, etc., of the teeth, is very constant phenomenon, and was present in almost all the patients

I saw. An undue arching and height of the palate was another remarkable and very constant condition. In one girl, to whose mouth Dr. Guggenbuhl directed my attention, the hard palate could not, I should think, have been less than an inch in elevation above the level of the gums. The whole upper jaw was contracted, and the deformity quite sufficient to suggest the idea that in many cases, this malformation may constitute one of the causes of difficult acquisition of the faculty of speech.—*American Journal of Insanity*.

Death from Fright.—A singular case, in which a youth named Harrison died from the effects of fright, has just been brought under the notice of the profession at York. The hapless deceased had slightly scratched himself with a knife, and he became so alarmed at the appearance of a few drops of blood which oozed from the nearly imperceptible wound, that his nervous system received a fearful shock, from which it never recovered, and he gradually sunk. It seems that a short time previously the deceased's brother died from the effects of excessive hæmorrhage, and this no doubt acted most violently on the nervous system, and led to the fatal result.—*London Lancet*.

Plastic Zinc.—M. Sorel "suggests the employment of oxychloride of zinc, to stop hollow teeth; for which its plasticity, and subsequent hardness and impenetrability to the moisture of the mouth, render it particularly applicable.—*Scientific American*.

American Aluminium.—Mr. Alfred Monnier, a metallurgist, of Camden, N. J., has made some valuable discoveries in improving the processes for obtaining the metal aluminium. At a recent meeting of the Franklin Institute, Philadelphia, he exhibited large masses of chloride of aluminium, large bars of sodium, and a quantity of the metal aluminium, thus giving practical proof of his ability to manufacture the last metal, and the materials immediately used to produce it.

Prof. James C. Booth, has written an article on the subject to the *Philadelphia Ledger*, in which he expresses hopes of this metal being obtained at a greatly reduced cost by Mr. Monnier's processes. At present it is very dear, being about ten dollars per ounce. Mr. Monnier has written us a letter on the subject, in which he states he has made sufficient experiments on aluminium, to assure him it can be produced at a very low price. He says it is not such a bright metal as silver, as has been generally represented, but in some respects it is superior, and will be used in preference to it, and that it will supersede German silver and copper, in the manufacture of articles for which those metals are now used. As the materials from which this metal is obtained are very abundant, we hope the processes of Mr. Monnier to obtain it cheap, will prove as successful as he anticipates.—*Sci. Am*.

Cleansing Gold and Gilding.—"The following is a French jeweler's receipt for brightening gold jewelry: Take two ounces of saltpetre, one of common salt, and one of alum, and dissolve them in a pint of hot water. Ten ounces of jewelry boiled in this for twenty minutes,

will have obtained a bright and beautiful color, after which they are to be taken out and washed well in warm soft water, and dried. The surface of the gold will have a dull appearance, but it can be made lustrous by burnishing.

A solution of gold in ether, applied to the surface of fine polished steel instruments gilds them—the ether being driven off with heat. Fine articles of cutlery are thus gilt sometimes.—*Ibid.*

Sharpening Files by an Acid.—I see in your paper of Jan. 26th, an extract from the *National Intelligencer*, headed “Sharpening Edged Tools.” I have used and seen used, for some time, dilute acid, in sharpening files, thus causing, as I believe, a great saving. The principle upon which the sharpening is effected, is, that a file tooth or edged tool presents two sides and but one edge, and while the acid combines with and takes from the edge, it removes a like amount from each side, thus reducing the thickness of edge.—*Ibid.*

For the preservation of Plaster of Paris Models.—We have seen many medals and statues in plaster of Paris beautified and preserved, by immersion in a solution of carbonate of soda, by which their surface is converted into crystalline carbonate of lime. Care should be taken that the solution contains no bi-carbonate, or excess of carbonic acid, otherwise the coating will be dissolved.—*Jour. Franklin Institute.*

Artificial Stone.—Chalk, either in the lump, or reduced to a paste, and steeped in a solution of silicate of potash, absorbs a considerable quantity of silica. It acquires a smooth appearance, close grain, and yellow color. The stone thus prepared takes a very fine polish, and hardens by degrees from the surface to the interior. This process may be advantageously employed for making mouldings, delicate sculptured ornaments, &c.

Ancient monuments of calcareous stone may be preserved by washing with silicate of potash. White limestones are silicated with double silicate of potash and manganese. When the stones are too dark, excellent results are obtained by suspending in the silicate a little sulphate of baryta, which penetrates into the porous stone along with the silica, and remains there in a state of combination. The joinings may be concealed by fragments of the stone ground up to powder, mixed with the silicate of potash, and applied as a paste.—*Ibid.*

Plaster of Paris for Impressions.—A mixture composed of equal parts of warm starch and of very dry plaster of Paris, has the advantage of becoming solid almost instantaneously.—*M. Nelaton, Med. Ex. Jan.*

May not this mixture, or some modification of it, work well for taking impressions of the mouth? Will some one try it and communicate the result?

On the Influence of Industrial Occupations on the Eyes.—The London Society of Arts some time since instituted an inquiry respecting the effect of industrial employments on the bodily health of particular organs, and commenced their undertaking with an inquiry into the “industrial pathology of trades which affect the eyes.” From a lengthened report on this subject to the Society we make the following extracts. Mr. Dixon, surgeon to the Royal Ophthalmic Hospital gives as his opinion that weakness of sight, as a general thing, is owing to over-use of the eyes, and not to any special employment of them, since every day’s experience teaches us that the most trying work for the eyes may be followed, provided due moderation is observed.

Tailors, it is stated are most liable of any class to exhaustion of visual power from over use of the eyes. Needlewomen and dressmakers come under the same head. It is suggested that needlewomen embroiderers, etc., should work in rooms hung with green, and having green blinds and curtains to the windows. In China this rule is adopted by the exquisite embroiderers of that country. Needlewomen would also find it greatly to their advantage to change the color of their work as often as possible. The *rationale* of this is found in the law that variation of stimulus is necessary to preserve the tone and health of any organ of sense, and that prolonged application of the same stimulus exhausts it.

Injurious consequences to the eyes often result from long continuance of work in the sitting posture. Congestive diseases of these organs are indirectly attributable to this cause, which produces stasis of the circulation, in the abdominal organs, and secondary venous congestion of the choroid coat.

Among all classes of persons occupied in various ways upon minute objects, instances occur in which the fatigue and distress of the eyes arises not so much from the actual amount of work, as from the patient’s attempting to execute it after a certain time of life, without the assistance of glasses suited to correct the gradual change of focus which the eye itself undergoes. Some persons even in early life—in childhood—who have very acute sight for distant objects, require the aid of slightly convex glasses, to enable them to sustain, for any considerable time, the effort of observing minute objects which are near them. This assistance is still more frequently necessary in adults who have passed the age of fifty. With convex glasses, accurately adapted to their peculiar focus, such persons are frequently able for many hours to follow their occupation of needlework, when, without such aid, their sight would wholly fail after a few minutes’ application. In a like manner, short-sighted persons suffer from attempting to work without suitable concave glasses.

Dr. Caplin, of Manchester, says:—If we take the trouble to investigate the effect of light on the eye, we shall find that it is not so injurious as it is generally thought. An organ, whatsoever it may be, is not injured so long as it can perform its functions with facility. The stress on the eyes results from *want of light*, and whenever the light falls on the object we want to see, and not on the eyes themselves, it does not prove hurtful. I have known many persons accustomed all their lives to most minute work, such as engraving, whose eyes were

neither affected nor impaired. This fact is in accordance with the law of physiology, by which the strength of an organ is in proportion to its activity. Oblique and bad light are the causes of affection. But it may be remedied by altering the window, or changing the place or position of the worker. The question whether the eye or any of the other organs of sense, is capable of improvement in proportion to its use, or whether like a human mechanical contrivance it wears out by employment, is a very serious one. A great deal of our conduct in daily life depends on the way we answer it to ourselves. It is probable that the "wearing out" contrasted in the popular saying, with "rusting out," is often falsely attributed to the human body, and that perfectly healthy organs are made more efficient by use—provided that such use does not diminish the nutrition of the system; but at the same time local injury is certainly experienced in many parts of the body, especially the eye, by working too long hours. The explanation appears to be this, viz.: that after the body has been long employed, sufficient vigor does not remain in each separate organ to enable it to do its duty—it can not be called healthy after the general strength is exhausted. Overworking the eyes, means working with the eyes in an unnatural condition.

In using artificial light, the light should be above the level of the face, so as to allow, as in nature, the brow, the lashes and the iris to shelter the pupil, and thereby the expansion of the optic nerve from the direct rays. Neglect of this precaution is injurious in two ways: first, the influx of such rays continued for a considerable period tends to exhaust the normal susceptibility of the retina; and, secondly, by eclipsing the brilliancy of the rays reflected from the work, so that the workman is induced to increase the light to a degree otherwise superfluous, dazzling and pernicious.

The following suggestions have been made in regard to the prevention from injury of the eyes from artificial light. 1. Color of the light. To fully understand the object to be attained, it is necessary to bear in mind that daylight is composed of three primary colors in the following proportions:—yellow, 3; red, 5; blue, 8. The red and yellow rays are the most exciting to the eyes, and in proportion as artificial light possesses them in excess, it is fatiguing and injurious to those organs. The bad effects, however, may be obviated, 1st, by surrounding the flame with a chimney-tinged pale blue; 2d, by surrounding the light with a shade colored azure blue on the inner side. In these contrivances the color of the light is improved by the addition of the deficient blue rays. 2. Position of the light. A frequent cause of the injurious effects of artificial light is the direct and concentrated manner in which it is permitted to fall upon the eyes. No light should be placed in front of the eyes, but it should be either above the head or rather behind, and on one side, so that the object can be well illuminated, while the eyes are fully protected from the heat and glare. 3. Unsteadiness of the flame. The steadier the flame the better for the eyes; lights should therefore have glass chimneys to assist combustion and prevent flickering. 4. Heat and dryness. This cannot be avoided in rooms heated with hot air, nor where there are many lights; but it may be obviated by placing in some convenient situa

dish containing water; and those engaged in work requiring a strong light should place a large wet sponge near them, to cool and moisten the air by evaporation. It may be also remarked that full blue and green glasses, which are often worn by persons having weak eyes, are highly objectionable, being of definite colors, and exciting complementary colors. Neutral-tinted glasses, being, as the name implies, of no definite hue, screen the eye from all colors alike, and produce an effect most grateful to irritable eyes.—*Ann. Sci. Discovery.*

On the use of Saliva.—The action of the saliva upon the starch we take as food, is similar to that of a ferment, and causes it to undergo a change into sugar. If you take a portion of pure starch and hold it in the mouth for only two minutes, you can obtain distinct and decided traces of sugar. We have here a solution of starch not treated with saliva, and if we employ our test for sugar, which you well know, (sulphate of copper and liquor potassæ,) we have no reduction of the oxyd of copper; but in this other mixture of starch and water, which has been held in the mouth for two minutes only, you may see distinctly a beautiful red line of reduced copper, the evidence of the presence of sugar. If the starch is left in the mouth for three minutes, a still more manifest action is apparent; and if it remains there five minutes, there is a distinct mass of reduced copper, which is proportioned to the quantity of sugar formed out of the starch.—*Bence Jones' Lecture.*—*Ibid.*

Chlorate of Potash in Ptyalism.—In two cases of severe salivation from mercury, recently under his care at the Metropolitan Free Hospital, Mr. Hutchinson has employed the chlorate of potash, administered internally. In each a rapid cure was effected.—*Medical Times and Gazette.*

Cyst in the Antrum.—A woman, aged 31, under the care of Mr. Lock, in Guy's Hospital, on account of a cyst distending the right antrum and projecting under the cheek. The bone in front of it had been absorbed. The operation consisted in dissecting up between the gum and cheek, and removing as much of the cyst wall as could be got away by means of scissors. A glairy fluid was evacuated, the cyst wall being tough and fibrous. The cavity was stuffed with sponge. Suppuration followed, and the parts healed, the cyst being apparently destroyed.—*Medical News.*

Fungoid Tumour.—A woman, aged 31, in good health, under the care of Mr. Hilton, in Guy's Hospital, on account of a "fungoid tumour" growing from the lower jaw and its gum. She was pregnant, and within a few months of confinement. The tumour was about the size of half a walnut. In the operation, it was found necessary to remove the bone at the affected spot, and afterwards to apply the actual cautery to arrest hæmorrhage. The wound soon healed.—*Medical News.*

Anæsthetics in the Austrian Army.—A circular has just been issued, ordering that in future the army medical officers shall always employ, for the purpose of inducing anæsthesia, a mixture consisting of one part chloroform and nine parts ether, this being the proportion long employed by Dr. Weiger, a Vienna dentist.—*Med. Times and Gaz.* Nov. 17, 1855.

Removal of a Malignant Tumour.—A woman, aged 31, under the care of Mr. Cock, in Guy's Hospital, on account of a return of cancerous disease in the right antrum and adjacent parts. Three operations for its removal had been previously performed, and considerable portions of the upper maxilla removed. The last operation was in May of the present year. Mr. Cock dissected up the integument, and scooped out the diseased parts as freely as possible. The wound has healed, but even now the growth is reappearing.—*Medical News.*

Treatment of Salivary Fistula.—"A man, æt. 28, strong and healthy, was operated upon for a cyst in the course of the duct of steno. Three days afterwards, saliva was found to escape from the wound." After ineffectual efforts to close this with pressure, as also with "a silver needle and a twisted suture," Mr. Rudolph resorted to collodion.

"He carefully dried the edges of the fistula, and applied two drops of the solution, which presently dried up, and left the part covered with an artificial cuticle. The day following, he thickened this pellicle by dropping more collodion upon it, and so on the next day, and the day following; and the end was, that in eight days the patient was perfectly well, the fistula having been closed from the time of the first application of the collodion."—*American Journal of Medical Science.*

Absorption of Effused Blood.—Mr. Bock, in speaking of the powerful effects of cold, referred to "the certainty with which the application of ice will induce the absorption of effused blood, in an ordinary ecchymosis—a power, by the way, which in certain cases of 'black eye,' may be turned to good account."—*Braith's Retrospect.*

Mouth Wash.—Six drops of the solution of the chloride of soda in a wineglassful of water is excellent for washing the mouth before going to bed, and after breakfast, to remove offensive odor caused by decaying teeth.—*Scientific American.*

Neuralgia.—In the course of observations on gout, Mr. J. Harrison quotes the following from Dr. Begbie:—

"Gout is blood disease, and may disclose itself in every organ of the body, and complicate and involve every disturbance of the system. It may visit every part and every texture, from the crown of the head to the sole of the foot, and molest and vitiate every function appertaining to life. We discover it in the head, where not unfrequently, in the form of intense and continued headache, its first manifestation in the system is perceived; we trace it in fits of giddiness and in transitory affections of sight and hearing; and often we are called to acknowledge

its presence in apoplectic and paralytic seizures, and its most intimate association with lethargy and coma, in connection with serous effusion or other cerebral diseases. We discover it in the spinal sheath, or spinal marrow, in the shape of paraplegia; and in every part of the nervous system in the form of neuralgia, whether under the name of lumbago or sciatica, of hemicrania or toothache, or any of the numerous forms of the *douloureux*.—*Braith. Retrospect.*

Action of Sugar on the Teeth.—M. Iarez, in a course of investigation, arrived at the following conclusions, viz.—

1. Refined sugar, from either cane or beets, is injurious to healthy teeth, either by immediate contact with these organs or by the gas developed, owing to its stoppage in the stomach.

2. If a tooth is macerated in a saturated solution of sugar, it is so much altered in its chemical composition that it becomes gelatinous, and its enamel opaque, spongy, and easily broken.

3. This modification is due, not to free acid, but to a tendency of sugar to combine with the calcareous basis of the tooth.—*Med. Chron.*

SUMMARY.

Dr. Simpson recommends carbonic acid as a local anæsthetic. Dr. C. J. Page, of Boston, has successfully used for the production of local anæsthesia, the vapor of bisulphuret of carbon, applied by means of a wide-mouthed bottle, and concludes, “first, that it is a valuable means for the temporary alleviation of pain; second, that in some cases of painful affections, where the pain is local, it is of permanent benefit.” *Am. Jour. Med. Sci.*

In a communication to the *Boston Medical and Surgical Journal*, Dr. Mattson, of New York, testifies to the value of anæsthesia by refrigeration, in the painless removal of teeth, and says that in his own case there was no subsequent soreness of the gums.

Amaurosis.—The foreign correspondent of the *Montreal Medical Chronicle* states, that he has seen in Mr. Hancock’s practice, “two or three cases of this disease entirely relieved by extracting decayed teeth, which, in themselves, did not cause any inconvenience whatever.”

To remove the stains of *nitrate of silver*, rub the stain with a solution of iodine, and wash off the iodide of silver formed, by ammonia.

Dr. J. Bryan very truly says, “to think in print is to think for ages.”

Mr. Martin exhibited at a late meeting of the Franklin Institute, Phila., “a bar of aluminium, together with a salt spoon, and a fork of the same material.”

The Journal of this Institute contains a statement, that according to M. Deville “the alkaline fluorides, (such as flour spar,) appear to be the best fluxes” for aluminium; and that it is now being made “from

kryolite, a double fluoride of aluminium and sodium, which occurs somewhat abundantly in Greenland."

Also, a description of a new and cheap process for "converting iron into steel, by a current of electricity passed through the iron, when placed in a furnace and imbedded in charcoal."

Dr. Durant states that he has seen cod-liver oil act with especial benefit in many cases of facial neuralgia, one of which was the most severe he had ever witnessed.

Dr. Böhling speaks highly of the power of tannin in *arresting hemorrhage*; after tooth drawing, a plug of lint is moistened in water, and dipped in the powder.

Mr. W. W. Evans, Engineer of the Arica and Tacna railroad, in Peru, reports that "in making excavations for the railroad, hundreds of graves were demolished in which were numerous Indian relics, among which was an Indian rolled up in a shroud of gold."

Mr. E. also notices a "remarkable fact that in hundreds of Indian skulls which he has examined, not one has a decayed tooth."

THE APPROACHING MEETING OF THE DENTAL CONVENTION.

MESSRS. EDITORS:—I feel great solicitude with regard to the approaching meeting of the "Dental Convention" in New York, and a desire that as many as possible may participate in its advantages. The idea propounded in certain quarters that this is a work, and that a locality, in which Philadelphia and Philadelphians are to preponderate, does great injustice to the very catholic spirit in which the movement was conceived. It is a meeting *of* all, and *for* all; the natural "primary assemblage" of the craft; and he does it dishonor who neglects to give to, and get from it, all the advantages which such a liberal intercourse insures. Let there, then, be a gathering from all directions where there exists one anxious to elevate and advance a profession capable, in its special but acknowledged claims, of such undoubted power in the alleviation of human suffering. In such a cause results are every thing—persons and places, comparative trifles. D. N.

The above was received too late to occupy its proper place in the Journal, which, from its importance, we regret.—ED.

To Varnish Articles of Iron and Steel.—Dissolve ten parts of clear grains of mastic, five parts of champhor, fifteen parts of sandrach, and five of elemi, in a sufficient quantity of alcohol, and apply this varnish without heat. The articles will not only be preserved from rust, but the varnish will retain its transparency, and the metallic brilliancy of the articles will not be obscured.

THE

DENTAL NEWS LETTER:

A QUARTERLY PUBLICATION,

DEVOTED TO THE

INTERESTS OF THE DENTAL PROFESSION.

EDITED BY

J. D. WHITE, D. D. S., M. D., AND J. R. McCURDY, D. D. S.

~~~~~  
VOLUME X.  
~~~~~

JONES, WHITE & M'CURDY,
PUBLISHERS AND PROPRIETORS,

528 ARCH STREET, PHILADELPHIA; 335 BROADWAY, NEW YORK;
16 TREMONT ROW, BOSTON.

INDEX

TO THE

TENTH VOLUME OF THE DENTAL NEWS LETTER.

	PAGE.
Report of the Meeting of the Western Dental Society, held July 30, 1856, -	1
Second Annual Meeting of the American Dental Convention, August, 1856, -	19
Meeting of the American Society of Dental Surgeons, - - - -	87
Sensitive Dentine, by J. H. MCQUILLEN, - - - -	88
Amalgam, by J. D. WHITE, - - - -	93
Editorial—Our Present Issue and the American Dental Convention, -	95
The Dental Recorder, - - - -	96
Essay upon Professional Fees, by ELISHA TOWNSEND, D. D. S., M. D., -	97
Caries and Necrosis of Bone, by J. D. WHITE, - - - -	106
Annealing Gold Foil, by E. D. S., - - - -	111
Irregularity of the Teeth, by J. D. WHITE, - - - -	113
A Dental Operating Table, by C. T. CUSHMAN, D. D. S., - - - -	116
Remarkable Specimen of Exodontosis, by M. B. PATTERSON, - - - -	117
Improvement on Soldering Lamp, by J. D. ELLIOT, - - - -	118
Refining Gold, by J. CARROLL HOUSE, - - - -	119
Gutta Percha as a Temporary Filling, by C. GIBSON LUM, - - - -	121
on Working Gutta Percha, by J. F. KNIGHT, - - - -	122
North Carolina Dental Society, - - - -	123
oothless, by H. A. B., - - - -	124
Editorial—Condensation of Gold, - - - -	125
A new method of using Gold Foil with Improved Instruments, -	126
Dr. Allen's Patent—The Dental Register of the West—State Societies,	127
Extracts from the Dental Periodicals, - - - -	128
lections and Abstracts from Medical Journals, by S. S. W., - - - -	143
he Cheoplastic Process, by P. H. AUSTEN, - - - -	176
edictory Address, by Prof. E. TOWNSEND, - - - -	177
ciduous Teeth and their Premature Extraction, by DANIEL MCFARLAND,	185
egularity of the Teeth, by J. D. W., - - - -	188
ituary—Dr. YOUNG W. LEWIS, - - - -	190
Dr. HARVEY BURDELL, - - - -	191
uggers for Annealed Gold, by LOUIS JACK, D. D. S., - - - -	193
ganization of the St. Louis Dental Society, - - - -	196
oth Edge, by J. D. W., - - - -	197
hesive Gold Foil, by J. H. MCQUILLEN, - - - -	199
f Arthur's Improved Method of Using Gold Foil, by T. D. THURMAN, -	201
nsylvania Association of Dental Surgeons, by J. E. G., - - - -	202
stistry in California, by B. A. K., - - - -	204

	PAGE.
Filling Teeth, by R. ARTHUR,	206
Artificial Dentures, by J. FOSTER FLAGG, D. D. S.,	209
Cheoplastic Process, by P. H. AUSTEN, -	212
Mechanical Dentistry, by T. L. BUCKINGHAM, D. D. S.,	215
A Simple Method of Overcoming a Difficulty, by R. ARTHUR, -	218
American Dental Convention, -	218
All Right on the Goose Question, by J. D. W., -	219
Philadelphia College of Dental Surgery, by J. HAYHURST, -	219
Editorial—Dental Colleges, -	220
Advice to those who use Amalgam—Dental Societies—A New Work on the Treatment of the Pulp, -	222
Baltimore College of Dental Surgery, Ohio College of Dental Sur- gery, Pennsylvania College of Dental Surgery, -	223
Artificial Dentures Dutiable—Dental Register of the West—com- munications—L'Art Dentaire, -	224
Dental Surgery—Dental Prosthesis. Translated by C. A. DuBOUCHET, M. D., D. D. S., -	225
Mississippi Valley Association of Dental Surgeons, -	227
Extracts from the Dental Periodicals, -	230
Selections and Abstracts from Medical and other Journals, by S. S. W., -	241
Obituary—Dr. S. P. HULLIHEN, -	256
Irregularity of the Teeth, by J. D. WHITE, -	257
A Free Passage for the Fluids, by JAS. W. GRANT, D. D. S., -	258
On Articulating, by LOUIS JACK, D. D. S., -	259
Making Loose Teeth Firm by Mechanical Means, by J. A. Chase, D. D. S., -	263
Some Practical Remarks, by A. W. TODD, -	264
Gold Foil, by F. COAR, -	268
The Heroine of Tooth Pulling, by N. HACKWORTH, -	269
Odontalgia, -	270
Caries and Necrosis of Bone, by J. D. WHITE, -	272
Minutes of the Third Regular Meeting of the Western Dental Society, -	274
Report of Discussions of the Third Regular Meeting of the Western Dental Society, -	282
Pennsylvania Association of Dental Surgeons, -	295
Non-Vascularity of Human Dentine, by J. H. McQUILLEN, -	298
Obituary—C. C. ALLEN, M. D., by H., -	301
Singular Accident, -	302
Editorial—Plugging Teeth, -	303
The Dental Movement in England, -	305
The Quarterly Journal of Dental Science—The British Journal of Dental Science—American Dental Convention, -	307
A Treatise on the use of Adhesive Foil—Practice for Sale—L'Art Dentaire, -	308
Inaugural Address, -	308
The College of Dentists of England: Its Origin and Development, -	311
Pennsylvania Central Society of Dental Surgeons, -	32
American Dentistry, -	32
Sizing for Plaster Models, -	32
Extracts from the Dental Periodicals, -	32
Selections and Abstracts from the Medical Journals, -	32

THE DENTAL NEWS LETTER.

VOL. X.

PHILADELPHIA, OCTOBER, 1856.

No. 1.

REPORT OF THE MEETING OF THE WESTERN DENTAL SOCIETY,

Held at Chicago, Ill., in the International Hall, July 30th, 1856.

Present—Drs. Allport, I. C. Quinlan, W. H. Kennicott, — Kennicott, E. Honsinger, T. P. Abell, E. A. Bogue, Chicago, Ill.; J. S. Clark, S. F. Knapp, New Orleans; C. W. Spaulding, A. Blake, Henry Barron, S. Dunham, H. J. B. McKellops, St. Louis; H. N. Lewis, Quincy, Ill.; A. M. Kelsey, Geneva, Ill.; D. W. Perkins, Rome, N. Y.; H. R. Smith, Terre Haute, Ind.; C. P. Fitch, — Hanson, Milwaukee; I. P. Norman, Rockford, Ill.; Anderson, Hannibal, Mo.; Solyman Brown, New York; Wm. Smith, Ottawa, Ill.; A. T. Metcalf, Kalamazoo, Mich.; Mansfield, Niles, Mich.; E. J. E. Carpenter, Joliet; C. J. Reynolds, Dixon, Ill.; A. Gibbs, Chicago, Ill.

In the absence of the President, D. E. Hale, of St. Louis, Dr. Allport, one of the Vice Presidents, was called to the chair.

Dr. Allport said, that in the unexpected absence of the President, he should detain the meeting with but a very few remarks:—A few years had effected a remarkable change in the Dental Profession. Formerly, a knowledge of its more elevated practice was confined to the larger cities. Now the science of Dentistry was extended over the whole country, north, south, east and west. This was the normal result of a generous liberality on the part of a few eminent practitioners, who had made known the principles and practice of Dentistry to their professional brethren, as well as to students in the art, both privately and by means of periodicals and colleges, established expressly for the purpose, in various parts of the country. The names of Parmly, Harris, Maynard, Taylor, Townsend, Dwinelle, Solyman Brown, Dunning, Westcott, Clark, and others, would readily occur in this connection.

In pursuance of the same object, and in imitation of these noble examples, we organized this Society last April, in the Great West, and have now met for mutual instruction and improvement.

It was then, on motion, resolved, that Dr. Solyman Brown, of N. Y., Drs. Clark and Knapp, of N. O., Dr. Perkins, of Rome, N. Y., and Dr. Smith, of Terre Haute, Ind., (one of the Professors of the Cincin-

nati College of Dental Surgery,) be invited to participate in the discussions of the meeting.

After reading and approving the minutes of the last meeting, a committee, consisting of Drs. Blake, Dunham and Clark, reported as the special business of the session, the following subjects for discussion, viz: the extraction of the deciduous teeth of children; the plugging of the fangs of teeth; the use of gutta percha as the basis of artificial teeth, and crystal gold.

This judicious selection of subjects was approved by the meeting.

Dr. Clark, on being called upon, opened the discussion on deciduous teeth. He said he deemed the subject one of pre-eminent importance, and if there was a point of practice that brought the careful operator the most cause for anxiety as to the adoption of correct practice, and of regret for popular mistakes and consequent mal-practice, it was the treatment of deciduous teeth. These teeth had their use, and it was an important one, not only as furnishing temporary means of mastication, but in the production of a second permanent set, and if in any way they were wrested from that service, it must be considered as a misfortune. The first set, or deciduous teeth, were designed undoubtedly to answer the purpose of mastication, and to retain that office until the second teeth, developing under them, caused the loss of the deciduous fang by the process of absorption. Their retention, then, to that point, was a matter of importance.

Another point, and a material one, in this connection, he would mention. Immediately after the production of the deciduous teeth, (twenty in number,) came four protectors, in the shape of four permanent molars, one on each side above and below. Their office was, by antagonizing, to protect the deciduous teeth in their coming days of weakness, and also to serve as pillars, holding the jaws in correct articulation while the first are being lost, and the second set are forming. Extract one of these, (*which mothers and nurses will always pronounce first or deciduous teeth,*) and the jaw will tilt over until it meets with an antagonizing point. It may be a right articulation, but it is very apt to be a wrong one, and the cause of many lamentable cases of irregularity. We have, then, clearly the indication for the preservation of these teeth and the deciduous ones, and they have performed their several functions. He condemned the *wholesale extracting* of those teeth *to order*. He did not extract one for ten brought to him for that purpose.

Dr. Kennicott inquired of Dr. Clark what had been his successes in stopping deciduous teeth.

Dr. Clark responded that he had never courted success in that line. He called it only *stuffing*.

Dr. Perkins remarked, that the development of the human physical system was harmonious throughout, and simultaneous in all its parts. He described the development of the two successive sets of human teeth. In treating the teeth of children he always regards primarily the welfare of the adult teeth which succeed them. The teeth of children are now developed much earlier in this country than in former years, the probable result of the different habits of society at successive periods.

Dr. Knapp inquired of Dr. Perkins whether he would extract deciduous teeth, when they were decayed to the nerve; and was answered that it would depend somewhat upon circumstances.

Dr. Knapp remarked that children should be taught to exercise their teeth in the mastication of hard food, which is necessary to their healthy development.

Dr. Clark remarked that Dr. Knapp had been trying the experiment for four or five years, of brushing his children's teeth morning and evening, with his own hands, not being willing to entrust the experiment to nurses, and that his success in preserving them seemed thus far very perfect.

Dr. Perkins does not allow his children to use vinegar; in consequence of the deleterious effects of all acids except those of the milder forms, such as found in fruits. He does this by way of experiment, as he thinks vinegar injures the tender enamel of children's teeth.

Dr. Dunham inquired whether there was any particular advantage in filling children's teeth.

Dr. Clark replied that he used all means, such as cleanliness, treatment in case of pain, and stuffing or filling, to ensure their retention to as near the point of indication to removal as possible.

Dr. Allport stated that he had been in the habit of doing so, when it seemed proper. When practicable he files instead of filling. He thinks that the subject of keeping children's teeth clean is of very great moment; on which point dentists ought to take great pains to instruct the public. Adjourned till 2 P. M.

AFTERNOON SESSION.

THE SUBJECT OF "CHILDREN'S TEETH" WAS RESUMED.

Dr. Clark spoke at some length of the action of acids on the teeth, acids in food, acids in the secretions, and acids generated by foul deposits between and around the teeth. He did not know, however,

how far this crusade against acids should be carried, and had not, like Dr. Perkins, banished vinegar from his table. He did not know that many of our acid fruits, or even vinegar, might not be not only admissible, but really beneficial to the teeth in a healthy state. We ought to take into account physiological facts, as well as facts in chemistry. To say that with the well-known affinity of acids for lime, that the teeth are composed of some eighty per cent. lime, is rather alarming to the users of acetic or malic acid ; but when we consider, physiologically, it is another matter.

Dr. Perkins believed that the luxuries of the present age, in this country, are destroying teeth with alarming rapidity, by vitrioling the general constitution, as well as by direct action on the teeth.

Dr. Quinlan thinks that the experiments already made, show clearly that acid substances injure the teeth.

Dr. Fitch thinks the great question is, what acids the food develops, and what action they have upon the teeth, and believing that the subject had been sufficiently discussed for the present, he suggested that the second question, "Fang Filling," be taken up for the afternoon discussion.

FANG FILLING.

Dr. Clark, being called on, said he had practiced extirpating the nerve or pulp, and filling the canal occupied by it, for some nine or ten years, and that his present confidence in the operation is greater than any preceding expectations. The history of this discovery was somewhat obscure. All he could say was, that it was performed many years previous to his attempts. The profession knew how far Dr. Kœcker earned his operations in this direction, and it is certain, that Drs. Maynard, Harwood, Badger and Hudson practiced it years before any of us. His method of operating he had long since given to the profession, which was, to draw the temper from a fine broach, and to cut "fish-hook" barbs on one side, say two rows on two of the broach edges, with a sharp knife, leaving the other side perfectly smooth. With the smooth side next the wall of the canal, he thrusts the instrument to the apex foramen ; then carefully rotating and withdrawing the instrument, the nerve or pulp is caught on the barbs, and the pulp thus removed. The operation of filling is the most simple part of it. Several broaches drawn to a blue, are loaded with strips of foil (say one-eighth of an inch wide,) from the point of the broach to as near the shape of the canal as possible. One of these is inserted to the apex the broach withdrawn from its cylinder of gold. A small smooth

instrument is then thrust up by its side, and another loaded broach, as before, and so on until it is full. This method has one advantage. Should ulceration be threatened, and treatment be necessarily resumed, this filling can be necessarily removed by the tweezers. If the pulp is entirely removed, or disease thoroughly eradicated, and this canal faithfully filled, we may hope for favorable results; but we should not promise our patients too much. Fang filling, from the very nature of the operation, must be somewhat uncertain. In fact, like all surgical operations, the operator is not the one to promise inevitably a cure. We do not cure diseases in any form. We merely remove obstructions and supply deficiencies, and nature does the rest.

Dr. Knapp said the removal of the pulp of the fang is sometimes difficult, also the filling of the fang, especially of the molars. Kreosote is the best agent for cleaning out the *pus* from the cavity.

Dr. Anderson uses kreosote and arsenic to cleanse a nerve cavity and prepare it for filling. These substances are introduced on cotton by means of a broach.

Dr. Kennicott frequently extracts the nerve by the use of a piece of hickory, and sometimes stops the cavity with a well fitted hickory plug.

Dr. McKellops uses nitrate of silver, sixty grains to the oz., to clear out the fang, and employs an instrument manufactured for the purpose.

Dr. Perkins uses the chloride of soda to inject the fangs of teeth. Sometimes the fang has an ulcer when there is no other disease in the tooth.

Dr. Clark treats ulcerated fangs by thrusting kreosote up the orifice on cotton, and leaving it there from time to time for some days.

Dr. Dunham did not think favorably of the hickory plug spoken of by Dr. Kennicott, (in explanation of a case of his alluded to.)

Dr. Clark stated that in cases where the fang of a molar, with a lateral decay to the nerve, required to be stopped with gold, he was in the habit of drilling a hole through the grinding surface of the enamel, in order to get access with his broach to the orifice of the root.

At this stage of the proceedings, on motion of Dr. Allport, the following gentlemen, not residents within the geographical limits of the society, were elected as honorary members:—Drs. S. Brown, of New York; Perkins, of Rome, N. Y.; Smith, of Terre Haute, Ind.; Clark and Knapp, of New Orleans, La.; and Knapp, of Jackson, Miss.

EVENING SESSION.

SUBJECT—GUTTA PERCHA AS A BASE FOR TEETH.

Dr. Dunham thinks gutta percha very useful in cases where the teeth have been recently extracted, and the alveolus very prominent, especially about the eye-teeth. In these cases it is often very difficult to use metallic plates without making the lips too prominent. He prefers to use a thin plate of gutta percha rather than a gold plate, the ends of the teeth resting on the gum without a plate in front.

Dr. Smith has used gutta percha in two cases, but does not like it; especially the samples which he had, and which were said to have been made by Dr. Slayton. The texture and color were both bad.

Dr. Quinlan was of opinion that gutta percha will be found in many cases to be very useful.

Dr. Spaulding uses gold plate for temporary cases as the best material. When the gum changes much, he uses gutta percha to fill up the interstice or chasm between the plate and the arch of the palate and the alveolar ridge. This plan he finds to work well.

Dr. Clark does not use gutta percha for permanent sets of teeth, but nevertheless regards it as useful for many purposes, particularly when a piece of work constructed upon it brings the patient back in quick time for a new set on proper material. He occasionally uses it for patching up old work, which is generally neither very pleasant nor very profitable to the Dentist. He thinks that when a gutta percha plate wears through very soon, it is owing to the material having been overheated or burned by the lamp. For lower pieces where only the front teeth are gone, he likes gutta percha, yet he has no reliance upon it for any but temporary sets.

SECOND DAY.

CONTINUOUS GUM.

The Secretary read the minutes of yesterday, which were amended and adopted.

Dr. Clark was requested by Dr. Spaulding to state whether solder, made with arsenic, will eat up the platina plate.

Dr. Clark thinks it will, if the arsenic is in excess. The sanguine hopes at first expressed, have not been fully realized. The experiments have not thus far been fully satisfactory, but he hopes the difficulties will be ultimately overcome.

Dr. Honsinger had one job of continuous gum, which was not successful, and only one. He proceeded to describe the case minutely.

A set of gum teeth had failed in the mouth. He substituted continuous gum. This soon lost one molar, and the gum was broken and loose; made a new set, and that gave way; then struck a second plate and added it to the first, bringing the edge over the front enamel. This also gave way, probably on account of the many bakings.

Dr. Clark advised Dr. H. to send his subject to Dr. Harris, of Philadelphia, who once had a similar case, a lower set, which he made of cast iron.

Dr. Allport said he was gratified to hear gentlemen give us an account of failures, for he thought much more could be learned from some failures than from many successes.

Dr. Spaulding said, in relation to the articulation of continuous gum work, it must be good; but when the antagonizing teeth are gone, the danger of unequal pressure can hardly be avoided.

Dr. Perkins had encountered the same difficulty. In such cases he has made the backing and front part of the plate exceedingly strong, and put a block of platina over the place of strongest pressure.

Dr. McKellops has done a good deal of continuous gum work. One piece, after six months, exhibited the four front teeth projecting forward. He split the backings, and turned one half of the back up on the plate; then baked carefully; merely soldered the backs to the plate, not the pivots; had a case where the patient had worn gold plate; first made a block, then substituted gum work. The principal strength of this work is in the baking; the first bake of the body should be but just sufficient to cause the material to adhere.

A young gentleman present was called on by the President to explain his method of making gum work; described the process generally, but owing to the want of time, too briefly to be of much practical use.

Dr. Blake thinks that the baking should be *progressive*—each baking more than the former, fusing the whole mass; described a case of filling up the cheeks, which was fully successful, and is of opinion that continuous gum work is of considerable use to the profession.

Dr. Clark wished to know the experience of the gentlemen present in relation to air chambers. He used them sometimes, not always. He knew of no plainly established rule to govern him when to use them and when not. In looking back at his practice, he found he had adopted something like the following:—When the centre of the palatine arch is hard, or has a hard protuberance, or sort of back-bone running through its centre, he used a chamber, and a large one, but not deep. When the whole arch and gum are spongy, and the membrane thick, he did not use one. He would also like to call attention

to the articulating of artificial teeth. It had been stated, that in natural dentures, a line drawn from the canine to the last molar of the upper jaw, would generally show the teeth to be in the same line. Artificial teeth cannot have all the uses of natural ones. Natural teeth may interlock by long cusps; artificial ones would be useless articulated thus; and the pieces from our best dentists, and those proving the most useful, are set in a more perfect circle than the natural ones, owing to the necessity of relying mainly on the masseter muscle for their use. Then the lower jaw generally protrudes, so that the circle is necessarily enlarged at the bicuspid part of the arch.

Dr. Dunham is pleased with the character of the discussion this morning; is obliged to Dr. Honsinger for his particular delineation of his *failures*; this is even more useful to us than a description of our *successes*. Dr. Dunham sometimes uses air chambers, in the cases stated by Dr. Clark, and does not use them in soft spongy gums. Describes a plan of making air chambers; cuts a piece of tin an inch long, and half or three-quarter inch wide; after swedging his plate he places the tin in the female cast and strikes the plate over it; this prevents the rocking. He takes upper impressions generally in wax, lower ones in plaster. When the wax is introduced, he directs his patient to press his fingers against the cheek and wax over the molars, whilst he presses up the cup to its position; he presses the front wax a little inward, after taken from the mouth.

Dr. Bogue wished the opinion of gentlemen as to air-chambers.

Dr. Dunham generally takes three casts, and selects the poorest to swedge on at first; then, if the fit is bad, on another, and so on to the last, if necessary.

Dr. Spaulding uses air-chambers when the hard prominence exists in the arch. In almost all cases of partial sets he uses air-chambers; makes the edge of the chamber square, and not rounded, to prevent the expansion of muscle into the chamber. In order to produce the square edge he cuts out a piece of the thin plate; though shallow, the chamber will not fill with flesh, and its impression is scarcely perceptible to the eye; considers them better than deep chambers. On the subject of impressions, he has settled upon wax exclusively unmixed. Uses sheet zinc to strike off a preparatory plate or cup; in this plate he places sheet wax of equal thickness and warmth; when the gum is spongy he cools the wax a little. In lower plates, when the sheet of wax is placed on the zinc plate, he gently presses the wax on the zinc die, to give an *approximation* to the true forms; takes cold water into the mouth to cool the wax. In lower plates it was his custom to limit

the plate at the movable muscles; draws a line on his plaster with a pencil where he judges the muscle will move; increases the suction by remodeling the edge of the plate in front. One of the most difficult points to fit is behind and around the condyle of the jaw; attaches the rim to the edge of this curved edge of the plate; this curved edge not only increases the suction, but may be made to fill up the mouth and keep out the lip as desired. Around the condyle it is sometimes necessary to cut out a wedge of the plate; sometimes injects cold water about the condyle to harden the wax before removing it. The zinc plate may be one-fourth of an inch wider than the gold-plate; does not spread the zinc plate at all at the sides.

Dr. Dunham asks whether Dr. Spaulding ever springs the zinc plate by unequal pressure. The body of wax must be as thin as possible, and not break, also the wax must be very soft. A hole must be in the centre of the plate to let in the air before removing. Sometimes he pares off a little of the plaster cast in front, to compensate for the imperfect fit over the edge of the alveolus.

Dr. Smith, of Ottawa, wished to know whether an *atmospheric pressure plate* is the same as a *suction plate*.

Dr. Spaulding thought that capillary attraction had as much to do with the support of the plate in the mouth as atmospheric pressure.

Dr. Dunham differed from Dr. Spaulding on the subject of atmospheric pressure; he believes that atmospheric pressure does exist, because if a small orifice be made into an air-chamber the plate will drop.

Dr. McKellops does not know how Dr. Spaulding can put a little wax in his plate, and get the soft parts more perfectly than plaster will give. And also how one person finds it necessary to press his wax in, in front and around the edge, while Dr. Spaulding accomplishes the same thing by carving the wax out at the same points. He must say of central cavities that they are useful; thinks that in flabby mouths plaster is better than wax.

Dr. Spaulding responds that wax impressions caused no more necessary pressure than plaster, if the wax is sufficiently warm. Engrave a groove in the exact place on a plaster cast where the plate is to terminate on the palate. This forms a flange on the plate for its more perfect adaptation.

Dr. Anderson has thought the air-chamber was sometimes used for ornament; thinks the prettiest form of plate is that of nature; thinks the pressure should be removed from the palatal arch for the purpose of avoiding the rocking of the plate. For this purpose, he removes an

equal surface of the plaster cast, excepting near the posterior part. This plate will ultimately settle about enough to fill up the cavity. Thus the pressure is brought upon the alveolus where it belongs.

Dr. Clark thinks there need be no misuse of terms in regard to the chambered plates, called atmospheric pressure plates. It seems to him that we have two principles that effect the object, viz: COHESION and ATMOSPHERIC PRESSURE. Capillary attraction is another thing. It pertains to fluids in connection with tubes, as is shown by the sponge. What is called suction is the *effect* produced by air exhaustion from between two bodies not in contact. So then, in the plain plate, we have cohesion (*a well-known principle when two bodies are in absolute contact*) and atmospheric pressure. In the cavity plate we have these two principles and suction, if the air can be exhausted from the chamber. Moisture only assists by lubrication, making the contact more perfect, and only assists cohesion, which cannot be called capillary attraction.

Dr. Fitch denies that cohesion or attraction has anything to do with the plates of teeth. They adhere from atmospheric pressure. Has found air-chambers in some cases important.

Dr. Spaulding thinks the perfect fit of the margins of the plate more important than the fit in its middle parts.

Dr. Perkins denies cohesive attraction, and asserts atmospheric pressure, in the case of plates.

Professor Palmer, of the Michigan Medical University, was requested to explain the terms cohesion and adhesion, and atmospheric pressure.

Dr. Palmer said—Being thus called upon to make remarks in this convention of Dentists, though this profession was of a kindred one with his own, was, of course, entirely unexpected; but he had no objection to stating his impressions of some of the points in natural philosophy, which this discussion had suggested.

Attraction is that force or principle in matter by which bodies or their particles are drawn towards each other, or which prevents their separation when united. Aside from chemical and electrical, which are irrelevant to the subject under discussion, writers recognise two kinds of attraction—one operating at *sensible*, and the other at *insensible* distances. The *first* is called attraction of gravitation, and is that which causes a body to fall to the earth, and keeps the whole planetary system in motion and order; the second, attraction of *cohesion*, and is that which holds the particles of bodies in contact, giving them consistency, solidity and strength. This principle of attraction is inherent in all matter—that is, unless opposed by other forces, there

is a tendency in matter for its different parts to come together, the tendency increasing with proximity; and when the particles are brought to an insensible distance, they embrace each other by this attractive force—with different degrees of energy, to be sure; depending, in a large measure at least, upon the nearness with which a large number of particles are brought together, causing the more or less solid and tenacious forms of bodies.

When two plane and highly polished surfaces are brought in contact, a large number of particles are brought in the closest proximity, and this cohesive attraction holds them together. When less smooth, but still comparatively hard surfaces are brought in contact, and pressed upon each other with force, with many substances, proximity of particles occurs, and cohesion takes place. When certain solid masses are partially liquified or softened as by heat, which softening or liquification is effected by temporarily diminishing cohesive force, more particles are readily brought in contact, and the process of *welding* occurs. Under certain circumstances, when an unctuous or other semi-fluid substance is introduced in small quantities between two surfaces, it serves as a band of union, by the attraction of the material for both surfaces. *Adhesion* is a general term, signifying the state of sticking to, or being attached by whatever means, to something else—*cohesion* being the more scientific or technical term, as applied in a philosophical sense. Capillary attraction is a modification of cohesive attraction, and is applied to the rising of liquids in small tubes, by the attraction between the liquid and the sides of the tubes. The taking up of water by a sponge or cloth, is on the same principle—the pores of the sponge and fibres of the cloth acting as the small tubes, and the same term is applied to the process in these cases.

But there is another power which tends to hold two smooth surfaces in contact. This is the pressure of the atmosphere. When surfaces are brought together in such a manner as to exclude the atmosphere, or prevent its introduction at the margins, an attempt to separate these surfaces would tend to produce a vacuum, and would be resisted by this pressure. Both atmospheric pressure and cohesive attraction operate usually in holding surfaces together—sometimes one, and sometimes the other having the greater effect, according to the circumstances of each case. In keeping plates in the mouth, the atmospheric pressure probably has usually much the more effect. In filling cavities of the teeth with gold, cohesion is the principal effective agent. It is cohesion which causes foil and crystal gold, when pressed firmly together, to form a solid mass, uniting by the same force as in the case of superficial cavities, the gold to the tooth itself.

The term *suction* indicates the act by which the atmosphere is exhausted from a cavity, and where the atmospheric pressure upon surrounding surfaces forces a fluid or other substance into that cavity. As applied to a plate in the mouth, the adjective is scarcely as appropriate as other modes of expression.

Adjourned till half-past 2 o'clock, P. M.

SECOND DAY—AFTERNOON SESSION.

Dr. McKellops moved that the constitution of this Society be published.

Resolved, That the Secretary be requested to furnish Dr. S. Brown with a copy of the constitution for publication in the *Forcep*.

The subject of gold as fillings for the teeth, was the order of business.

Dr. Clark said that he had great confidence in gold foil, and thought if all its properties were understood, it would accomplish much more than was generally expected of it. He was not prepared to give up his confidence in gold foil, nor was he prepared to say that desirable operations might be performed with crystal gold that could not be done with foil; but some samples of filling which he had accidentally seen of Dr. Allport's, of Chicago, led him to suspect such was the case. One case he would mention. A lady, with two front incisors, which had large approximal cavities, presenting pretty much the appearance of having been separated with a file, one-quarter of an inch thick, down two-thirds of the distance to the gum. These two teeth were restored perfectly to their original shape; the approximal surfaces, the cutting edges, buccal and lingual surfaces, and all. When he stated the fact that the nerves were both preserved, and that these teeth, bearing the marks of perfect articulation with the lower teeth, had been used for nineteen months, the profession would see the difficulties encountered. He thought such demonstrations worth all the wordy pages of theory that could be written on this subject. The class of men who are doing this kind work, encourage us all to make high endeavors in our art. In thus complimenting Dr. Allport, he does not mean to say that he is going home to throw away his instruments. No such thing, but he is going back to endeavor to imitate these great examples.

Dr. Smith once thought he could plug a tooth tolerably well; but he had lately seen a first bicuspid, filled by Dr. Allport, two-thirds of which above the gum was of crystal gold. It preserved the original form of the tooth and performed all the purposes of mastication.

Dr. Knapp (of N. O.) thinks that cylinders are the best form of gold for plugs as a general thing. This system of cylinders used by Dr. Clark, he thinks is new. That any former methods claimed to be such were quite different from this. Crystal gold will doubtless succeed in some cases, especially in building up parts of teeth, such as he had seen of Dr. Allport's, better than any kind of foil.

Dr. Knapp, of Miss., was here named and elected an honorary member of the Society. He returned thanks for the honors, and stated that he has succeeded better with cylinder fillings than with gold in any other form.

Dr. Spaulding stated that he had regarded crystal gold as the very best material for filling very shallow cavities; and also in building up structure; the crystal gold is the perfection of material. Cylinders will make the best filling in the shortest period of time, and with sure labor. The first specimen of cylinder stoppings I had seen were (ten years ago) by Dr. O. P. Laird, of Columbus, Ga., when he was in Savannah, Ga.* He saw also ten years ago, plugs by Dr. Badger, which were very excellent, better than he himself can do. He had understood that Dr. Badger used cylinder plugs. He formerly suggested to Dr. Clark the propriety of seeing Dr. Badger—but Dr. Clark has made improvements in the method of forming cylinders. He does not wish to deprive any gentleman of his laurels. On the whole, he regards cylinder plugs as equal to any other, not excepting crystal gold. The plugs of ordinary form, of crystals and cylinders respectively, are so nearly equal, that the difference is not worth regarding.

Dr. Clark had always made it a special aim in all his professional life, to accord to every gentleman all the honors of discovery or introduction of improvements, and he would ever be found punctilious on this point. In the winter of '49, in New Orleans, he formed the acquaintance of Dr. Badger, and became satisfied that Dr. B. could excel him in filling teeth. During a whole season of very friendly intercourse with Dr. B., he never told me how he filled a tooth. He did impart to me my present mode of introducing gold into fangs, which I have given to the profession years ago, in the Dental Register; but I refused to receive anything from him of that nature, that he was not willing the whole profession should know. I never saw

* There must be some mistake about this, for we have it from good authority, that Dr. Laird has and does use the "rope," "strip" and "pellet" exclusively. One other difficulty occurs to us. Ten years ago Dr. Spaulding was filling his first teeth, under an indenture to Drs. C. S. Miles and Solyman Brown, in Ichua N. Y., of four years, commencing in the latter part of 1845. If he served out his time, it, at least, could not be very favorable to large discoveries in Ga.—*Editor of the Obturator.*

him fill a tooth, nor did he ever describe, in the least particular, his mode of using gold. I saw on his table pieces of gold that were in the form of gold wire, and I understood that he filled teeth by using gold in this form, by cutting off such pieces (from this wire, made from rolled foil,) as he needed, of the length required, according to the depth of the cavity.

I commenced preparing my gold, by rolling gold of the length wanted, so that I need not harden the ends by the cutting. I soon caught the principle of cohesion of surfaces in contact, and established my present mode of cylinder filling; and after a year or two found out that Dr. Badger did not fill with cylinders, and that he asserted so himself. That he packed his gold around the walls, and thrust these sections of cylinders into the centre. Of my whole course in this direction I have much to cheer me, and nothing to explain or regret. But I will say, that it glads me more, that my professional brethren have found this useful, and of practical service in their operations, than anything of a congratulatory nature.

Dr. Allport thinks the profession are pretty well aware who is entitled to the credit of inventing this method of filling teeth, and whoever he is, he enjoys the satisfaction of knowing it.

Dr. Knapp (younger) says there is nothing before this body to show that Dr. Laird, ten years ago, filled teeth with cylinders.

Dr. Kennicott says, that as long ago as 1820, he saw Dr. Cox, in New Orleans, fill teeth with cylinders. He has failed with crystal gold many times. Not a particle of moisture must touch a gold filling of any kind.

Dr. Honsinger thinks that crystal gold has mostly failed in consequence of having been introduced in too large quantities. He uses very small instruments. Has built up teeth when one-third gone.

Dr. Bogue gives his testimony decidedly in favor of crystal gold.

Dr. Clark has used but little crystal gold, but wishes to know whether the serrated instruments do not fracture the surface of the cavity, in consequence of their sharpness.

Dr. Perkins—I have some experience in this department of filling with foil. If any persons will come to Rome, I will show them fillings built up with foil by Dr. Allport, 8 years ago, in fine condition now. I have used Watts' gold, from the commencement of his manufacture, and regard it a very useful adjunct to foil. Has recently used about one-third crystal gold. Does not think a person ought to say that foil cannot be made to perform anything that crystal gold can do. Nor can he assert positively that it can. He described at length the manner of stopping with crystal gold.

Dr. Clark requested that Dr. Allport would describe his method of stopping with crystal gold.

Dr. Allport could hardly express his gratitude for the kind and flattering compliments which had been bestowed upon him. Does not use crystal gold exclusively. Foil constitutes about two-thirds of his fillings. Sometimes he uses pellets, and cylinders and crystals, all in the same cavity. The use of crystal gold requires four times the time for insertion that is required by foil. Never saves any more of the enamel than is strong and healthy—but saves all the front possible. He presses the crystals in the direction of the length of the tooth as much as possible. Uses serrated instruments, small and sharp. If a plug gets wet, whether of foil or pellets or crystals, it can be cleaned by chloroform and wiped dry with bibulous paper. The credit due to crystal gold is attributable to Dr. Watts. Since July last, his gold has been good, very good—all that is required. He can build upon a surface after it has been polished, or upon solid metal.

Dr. Spaulding explained the reason why serrated instruments packed the crystals in such a manner as to cause them to cohere in a mass, but it must be borne in mind, that the serrated points do not push all parts of the crystals with equal solidity; at the polished surface they become nearly so.

Dr. Dunham does not think he could stop front teeth better with crystals than with foil; he never allows the force to fall wholly upon one tooth, but introduces a wedge between the teeth, to connect the force with two or more teeth.

The Society next proceeded to the consideration of

CONTINUOUS GUM WORK.

Dr. Spaulding thinks the gum and body may be made strong enough.

Dr. Kennicott gives his word for continuous gum work and esteems it the perfection of artificial teeth.

Dr. Clark is using it pretty extensively, and thinks it occupies an important place in the profession. Deems it as useful as any kind of work that has ever been made. It is artistic in an eminent degree, and is not liable to the objections raised against gutta percha, that it lowers the standard of professional skill.

Dr. Spaulding assents to all that Dr. Clark has said in favor of continuous gum, yet there is one serious objection, which is the liability of breaking the teeth, either in the process of manufacture, or by a fall afterwards, in which case it is a sort of work very difficult to repair.

Dr. Dunham regards the breaking of the gum as a much greater

objection than the breaking of the teeth. This he has not been able to avoid.

Dr. Kennicott has seen gum work that nothing else has ever equalled. It can be adapted in color both of gum and teeth to suit the complexion. The frequent heating of this work is very liable to injure the teeth.

Dr. Perkins regarded it as unfit in all cases.

Dr. Smith desired to know whether tobacco did not make gutta percha sets very disagreeable.

Dr. Clark replied that a smoker would find his teeth disagreeable.

Dr. Dunham has charged \$75 for sets of gutta percha teeth, which is the regular price in St. Louis. Thinks twenty-five of his patients are wearing them comfortably.

Dr. Allport has used it in cases where it answered a very good purpose for temporary work.

Dr. McKellops moved that when the Society adjourn, it be to meet in the city of St. Louis, on the third Wednesday in May next.—Adjourned.

In the evening of the 31st an entertainment was given by the dentists of Chicago, at the Briggs Hotel. In addition to the many entertaining and instructive speeches by the members of the Dental profession, Dr. Palmer, one of the professors of the Michigan Medical University, who knows exactly what to say, and with decided ability, made two eloquent addresses, with which the members of the Society and invited guests were greatly delighted.

The Chicago Meeting of the Dental Society of the West will long be remembered with pleasure and profit by those present.*

It is with much pleasure that we are able to present one item of interest occurring at the supper given to the profession, by the dentists of Chicago, in the shape of an outline of Dr. Palmer's speech on that occasion. It is gratifying to us all to note the appreciation that of late has been shown by some of the best teachers and practitioners of medicine, of our efforts in what we claim to be a kindred profession.—*Editor of the Obturator.*

Dr. Brown gave as a sentiment—The Medical Profession—the primitive stock from which ours arose.

Dr. A. B. Palmer, Professor in the Medical Department of the University of Michigan, one of the editors of the *Peninsular Journal* of

* We are indebted to Dr. Solyman Brown, for access to his report of the Chicago meeting, our manuscript copy of proceedings for the first day's session, from the hands of the reporter, having been lost or mislaid.—*Editor of the Obturator.*

Medicine, &c., &c., being present as an invited guest, was called upon and in response, in substance, said—That though not entirely unaccustomed to speaking to numbers, he *was unaccustomed* to after-dinner speeches, and especially did he find it embarrassing to attempt to make a speech, after such extensive and efficient use as had just been made of his dental apparatus, repaired and made effective as it had been by the very skillful member of this body sitting at the head of the table. He could not, however, refuse to respond to the sentiment just offered to the profession which he loved, and to which he had given, so far, the best energies of his active life. He was happy in being present on this occasion, and of the opportunity of mingling in sentiment and feeling with the members of the Western Dental Convention. The professions of Medicine and Dentistry were kindred. They had been compared to a parent plant and its offshoot, and the comparison was just. The two professions were similar in several respects. They were kindred in requiring alike an acquaintance with several branches of knowledge—of anatomy, physiology, pathology and therapeutics; particularly so far as these have relations to the important organs which come especially under the care of those of your fraternity; and if it be regarded as within your province to consider the causes which lead to the decay of the teeth, you are taken over a large range in common with us. Indeed, the health of the general system is essential to the perfection of the teeth, and upon the perfection of these organs, or at least their freedom from disease, depends in no small degree the health of the system. Thus have we many subjects of study in common, and thus are our professions kindred. It is true that the medical profession has a wider range of subjects of study and action—we have more to do with the profound mysteries of life; but as ours has more to do with the secret and hidden, yours is more engaged with the open and apparent, and is, consequently, more positive and certain.

But in another, a higher, and a better sense are our professions kindred. We are alike engaged in the relief of suffering humanity—we are engaged in arresting and repairing the ravages of disease and accident in the human frame—we are engaged in the God-like business of doing good. Healing the sick—restoring the maimed, was no inconsiderate portion of the mission of the Divine Master. This is our mutual occupation, and this should make both of our professions high and noble—should make them liberal and benevolent *professions*, and not mercenary trades.

The advantages of associations like the present—of the bringing

together a body of men such as these from distant localities, for the purpose of promoting a common and laudable pursuit, are many and great. There is a free interchange of ideas—the particular modes of practice peculiar to each, are freely presented for the improvement of all. As was said by Dr Clark, many things were received, as it were, by absorption—many ideas are unconsciously transposed from one to another by the contact. This reception of ideas by personal intercourse, is more effective than by reading. The personal presence of the individual impresses more strongly the fact or the principle he would communicate, and besides this, each would feel a greater interest in what another writes, from having seen and known him.

But the direct increase in knowledge and familiarity with the different modes of practice, are not the only or even the principal advantages. A spirit of improvement is awakened—a desire for advancement is excited—and thus would a higher position be attained. And there was need of inducements of this nature. Popular judgment of professional merit is notoriously erroneous—the noisy pretender often enjoys a larger share of public favor than the more quiet man of merit. A more correct appreciation exists among one's professional brethren. They alone are competent accurately to judge, and of a reputation among those of his own profession, one may justly be proud. These associations tend to establish such reputations, and to induce real improvement for the sake of them. And these advantages are not entirely confined to those who may be present on such occasions, but the impulse will be felt throughout the whole profession. The absent must arouse themselves or they will be left behind in the march of improvement.

But there were other, and what might be regarded as incidental advantages of these meetings. They afforded the most agreeable, social occasions. There was great pleasure in the extension of agreeable acquaintances, and the union of the States was strengthened by uniting men in a common cause, and bringing them around the same hospitable board, all the way from Wisconsin to Louisiana; and the time might come when all such aids would be needed.

He could not sit down without expressing his gratification at the repudiation he had heard from those present of *secrets* in their profession. In this respect, it should be placed on the same footing with the medical profession. With medical men, no one could maintain a respectable position who held a secret remedy or a secret process; and dentists owed it to themselves, as members of a liberal profession, to exclude from their communion and fellowship all those who were

unwilling that their brethren and suffering humanity should have the full benefit of their discoveries and improvements. On this subject he could not express himself more strongly than he felt. On no other grounds could he recognize the profession of dentistry as kindred with that of medicine.

In conclusion, he would give—The Dental Profession, as distinguished from a mercenary trade.

SECOND ANNUAL MEETING OF THE AMERICAN DENTAL CONVENTION.

REPORTED FOR THE SOCIETY, BY WM. HENRY BURR.

The Association of Dentists, organized in August, 1855, under the name of the American Dental Convention, held its Second Annual Meeting, at Hope Chapel, New York City, on Wednesday, Thursday, and Friday, August 6th, 7th, and 8th, 1856. The following is a complete list of members present, as furnished by the Secretary:—

Maine.—S. V. Howard, Skowhegan.

New Hampshire.—D. A. Stackpole, Dover; L. W. Hale, Oxford; A. J. Young, Dover.

Massachusetts.—E. G. Tucker, Boston; Dr. Wilson, do.; D. Tracy, Worcester; S. P. Miller, do.; Thomas Palmer, Fitchburg; C. A. Whitney, do.; Jas. D. Brown, do.; Geo. L. Cook, Milford; M. Loomis, Cambridgeport; F. Searle, Springfield; Francis Field, Waltham.

Connecticut.—W. J. Rider, Danbury; Samuel Mallett, New Haven; J. B. Wheat, do.; Charles Merritt, Bridgeport; James S. Barbour, Norwalk; C. M. Hooker, Litchfield; Lewis Betts, New London; W. Potter, Norwich; H. V. Porter, Naugatuck; B. St. John, Wilton; R. S. Reynolds, Waterbury.

Rhode Island.—W. H. Smith, Newport; H. H. Farnham, Westerly; F. N. Seabury, Providence; W. H. Helme, do.

New York City.—John B. Rich, J. H. Foster, E. J. Dunning, Geo. E. Hawes, F. H. Clarke, William Dalrymple, William H. Dwinelle, C. W. Ballard, B. F. Maguire, J. G. Ambler, Norman W. Kingsley, T. B. Gunning, Geo. Clay, S. W. Judson, B. C. Leffler, W. A. Bronson, John Allen, William T. Laroche, A. L. Roberts, J. T. Valentine, W. B. Roberts, C. E. Francis, S. A. Main, Geo. H. White, John M. Crowell, C. S. Miles, F. H. Burras, David J. Steinburg, W. T. W. Chapman, A. Starr, J. H. W. Vere, A. J. Letamendi, A. P. Preterre, L. Berhard, Max Sahel, Samuel Hessel, E. C. Rushmore, E. S. Waters, James T. Stratton, Benjamin Lord, John D. Chevalier, Wil-

liam Michaelis, A. C. Castle, Charles D. Brown, Eugene P. Preterre, Robert B. Sutton.

New York State.—John Branique, Brooklyn; S. C. Frink, do.; Jonas W. Smith, do.; C. A. Marvin, do.; J. J. Dumon, do.; F. W. Dolbear, do.; B. S. Lyman, do.; R. McGregor, Rochester; A. Hooper, Binghamton; L. D. Walter, Lockport; S. T. Barret, Port Jervis; Charles Merry, Herkimer County; A. Blakesly, Utica; John C. Austin, Albany; C. S. Weeks, Bedford; S. B. Palmer, Tully; E. H. Sylvester, Lyons; David Peabody, Elmhurst; R. Walker, Owego; A. Blake, Aurora; G. N. Foster, Utica; Daniel Smith, Hempstead; L. W. Rodgers, Utica; D. W. Perkins, Rome; Stephen Mapes, Fishkill Landing; N. P. White, Yonkers; H. K. White, Utica; E. D. Fuller, Peekskill; D. C. Estes, Albany; T. H. Bradish, Utica; C. B. Foster, Utica.

Pennsylvania.—H. Townsend, Philadelphia; T. L. Buckingham, do.; A. Merritt Assay, do.; Jas. E. Garretson, do.; J. H. Githens, do.; J. M. Barstow, do.; Spencer Roberts, do.; Elisha Townsend, do.; Daniel Neall, do.; J. H. McQuillen, do.; C. N. Pierce, do.; J. R. McCurdy, do.; S. S. White, do.; J. F. B. Flagg, do.; J. F. Flagg, do.; David Roberts, do.; Stephen T. Beale, do.; Robert Arthur, do.; C. A. Du Bouchet, do.; J. Lukins, do.; R. W. Robinson, do.; William Gorges, do.; S. G. Martin, Meadville; Dr. Chandler, Rochester; Jesse C. Green, West Chester; J. Vallerchamp, Selin's Grove; W. A. Chittenden, Scranton; J. Martin, Strasburg; J. D. Wingate, Bellefonte; J. McCalla, Lancaster; F. M. Dixon, Pottsville.

New Jersey.—C. A. Kingsbury, Mt. Holly; G. C. Brown, do.; J. E. Phillips, Burlington; J. C. Robins, Jersey City; B. F. Smith, Orange; W. W. Ward, Newark; A. G. P. Colburn, do.; Albert Westlake, do.; W. G. Lord, do.; John Hassell, do.; Chas. B. Thurston, do.; B. W. Franklin, do.; William Mead, do.; G. F. J. Colburn, do.; G. Whitaker, Bridgeton; John Lum, Patterson.

Delaware.—Henry Garrett, Wilmington.

Maryland.—C. A. Harris, Baltimore; A. A. Blandy, do.; P. H. Austen, do.; H. H. Harvey, Hagerstown.

District of Columbia.—J. B. Gibbs, O. A. Daily, O. Munson, C. H. Van Patten.

Virginia.—John G. Coates, Roanoke.

Georgia.—George Roberts, Talboton; Albert Wilcox, Savannah.

Mississippi.—H. C. Kendrick, Natchez.

Louisiana.—J. S. Clark, New Orleans.

Missouri.—Isaiah Forbes, St. Louis ; H. J. B. McKellops, do. ; G. H. Perine, do. ; Aaron Blake, do.

Illinois.—T. P. Abell, Chicago ; W. W. Allport, do. ; S. P. Noble, Peoria.

Michigan.—M. S. Dean, Marshall.

Indiana.—Wm. F. Morrill, New Albany.

Ohio.—Charles Bonsall, Cincinnati ; James Taylor, do. ; Geo. Watt, do. ; William M. Hunter, do. ; Henry B. Young, Zanesville ; Jonathan Taft, Xenia.

Cuba, W. I.—Elizco Vedder, Matanzas ; W. L. Tinker, Havana.

Dr. John B. Rieh, of New York City, President of the Convention, called the meeting to order at 11 o'clock.

Dr. Charles Bonsall, of Cincinnati, the Secretary, read the minutes of the last meeting at Philadelphia, by which it appeared that eighty-two gentlemen of the profession were there enrolled as members last year.

Dr. Daniel Neall, of Philadelphia, offered the following resolution :

Resolved, That all practicing members of the Dental profession who may be present, and feel desirous of co-operating with us, be considered as, and hereby are, active members of this Convention, and are requested to sign the articles of association at their convenience.

The chair ruled the resolution out of order, and cited the 3d and 4th articles of the Constitution to sustain his decision, as follows : —

ART. 3. The Convention shall consist of members of this Convention, who shall sign these articles of association, and of such other practitioners of dentistry and auxiliary branches of science as shall hereafter be elected to membership, and, in like manner, sign these articles.

ART. 4. Candidates for Membership shall be nominated by a member of this Convention, at any of its meetings, and every such candidate as shall receive a majority of votes cast upon the question of his admission, shall be declared duly elected.

Dr. J. H. McQuillen, of Philadelphia, moved that the above articles be suspended.

Dr. W. H. Dwinelle, of New York, was in favor of the suspension of these articles. He desired the Convention to be an open one, and the platform they should lay down, a broad and democratic one, with as little machinery as possible, to carry out the ends they had in view. According to the spirit of the articles which they were called upon to suspend, it was necessary that they should go through considerable ceremony, which would greatly retard the business before them. He

desired to give their friends who were strictly members of this Convention the right hand of fellowship at once, in order that they might feel entirely at ease. He trusted, therefore, that the motion to suspend these articles would prevail.

The vote was then taken, and the two articles were accordingly suspended.

Dr. Neall now renewed his resolution. He wished to make the organization the simplest possible, that could keep a body of men together.

Dr. Elisha Townsend, of Philadelphia, moved to amend by substituting "at liberty" for "requested."

The amendment and resolution as amended, were adopted.

Dr. J. M. Crowell, of New York, inquired if gentlemen engaged in auxiliary branches of the profession were now to be considered as taking part with the Convention.

The chair ruled that they were not—none but practicing dentists.

Dr. C. W. Ballard of New York, moved the following resolution:

Resolved, That the gentlemen who have been practicing dentists, and who may be now engaged in the auxiliary branches, be admitted upon the same footing as dentists, or any person the Convention may nominate, be admitted as members.

Dr. E. Townsend, of Philadelphia, wished the mover of the resolution to explain what he meant by auxiliary branches. He granted that this Convention, as a body, might receive a great deal of light and knowledge from all the collateral branches of science, which might be called so far auxiliary branches to their profession; but the question of admitting members of all the auxiliary branches to a vote in this Convention was quite another matter.

Dr. Ballard, in reply, said that he meant precisely that class of persons who were admitted to a seat in the Convention at Philadelphia last year.

Dr. McQuillen stated that a prominent editor of a magazine and another person who had been a practicing dentist were elected members last year, while Mr. Abby, a manufacturer of gold foil, was rejected.

Dr. Ballard said that Mr. Abby was ruled out, and as regards the other gentlemen, his impression was, that they signed the Constitution without being voted for.

Dr. L. W. Rogers, of Utica, thought that the passage of the resolution would be opening the doors of this Convention rather too wide. The words "auxiliary branches" might include all persons who had

ever made anything that was used in the practice of dentistry. If there were persons engaged in making teeth, or editing dental journals, who desired to be admitted as members of the Convention, their names could be presented singly to the Convention, and the question of their admission then be acted upon. They ought not to adopt a general rule in reference to this matter, for they would then likely be overrun by all kinds of mechanics claiming to occupy seats in the Convention.

Dr. J. S. Clark, of New Orleans, stated that the gentlemen alluded to by Dr. McQuillen as having been elected members at Philadelphia, were Drs. McCurdy and White, who came in as dentists; the resolution to admit Mr. Abby was withdrawn.

Dr. Bonsall believed that every member admitted last year was a practicing dentist.

After various amendments offered and suggested, the resolution was shaped so as to admit gentlemen who have been practicing dentists, but are now engaged in auxiliary branches, or any persons that may be nominated and elected as members.

Dr. L. W. Rogers, of Utica, moved that the resolution be laid on the table. Agreed to.

Dr. S. S. White, of Philadelphia, did not like to lie under the suspicion that himself and partner came into the Convention by permission. When his name was proposed, he said he was not a practicing dentist, but, nevertheless, he was elected.

The chair ruled that while none but practicing dentists had a right, by the resolution, to take part in the Convention, those who had already signed the Constitution, were not excluded.

An appeal was here taken from the decision of the chair, and the question being taken on appeal, the chair was sustained in ruling out of the Convention "practitioners of auxiliary branches of science" mentioned in one of the suspended articles of the Constitution.

Dr. F. Searle, of Springfield, Mass., moved to restore the suspended articles 3 and 4.

Dr. Dwinelle, of New York, said that the words "practical" and "practicing" sounded very much alike, but they were very different. If they adopted the word "practicing" in their admission of persons to seats as members of this Convention, they would exclude very good dentists, who were temporarily out of practice. The resolution ruled them out because they would not be "practicing" dentists, although they might be "practical" dentists. He wanted a greater latitude in this respect than was now allowed by the resolution.

Dr. Clark, of New Orleans, stated, that as chairman of the commit-

tee that had this matter under advisement, he would explain that the object of the provision in the Constitution was to obtain the assistance of men engaged in collateral sciences, such as chemists and members of the medical profession.

After some further discussion, the motion to restore was laid on the table, with the understanding, that persons who were not practicing dentists should be nominated and voted upon for membership. The following gentlemen were accordingly elected *viva voce*: C. S. Miles, Solyman Brown, J. D. Chevalier and Robert B. Sutton, all of New York. The admission of Mr. Chevalier was opposed, he being a dental instrument manufacturer, but he was elected by a vote of 17 to 14 on a division.

Dr. John Branique, of Brooklyn, moved to admit John Kiersing, manufacturer of gold foil and teeth.

The motion was opposed by several members and the candidate rejected.

The chair appointed the following committee to report the order of business for the Convention:—Drs. Clark, La.; Kendrick, Miss.; Howard, Me.; Miller, Mass.; Helme, R. I.; Potter, Conn.; Clark, N. Y.; Robbins, N. J.; Young, N. H.; Buckingham, Pa.; Garrett, Del.; Harvey, Md.; E. Henry, Ga.; McKellops, Mo.; Allport, Ill.; Taylor, Ohio; Gibbs, D. C.; Deane, Mich.

Dr. McQuillen, of Philadelphia, Corresponding Secretary, being called upon for his report, stated that 2,800 circulars had been printed and sent off to different parts of the Union. He had received various letters, but none of sufficient importance to present. Report accepted.

Dr. Bonsall, Recording Secretary and Treasurer, made the following report:—

Amount paid for book and stationery, - - - -	\$ 1 10
One hundred copies of Daily Sun, (Phila.) - -	1 00
Advertising, - - - - -	1 00
Use of hall, - - - - -	9 00
Services of janitor, - - - - -	2 00
Circulars, - - - - -	63 85
Bills paid by Dr. Rich, for cards, canvas, sign, etc., -	10 00
	<hr/>
	\$87 95
Amount received, - - - - -	72 00
	<hr/>
Balance due, - - - - -	\$15 95
Report accepted.	

Dr. Clark, from the Business Committee, made the following as a partial report of the order of business :—

After an address by the President, 1st. Election of officers ; 2d. The pathological condition of diseased dentine and its treatment ; 3d. Best preparation of gold for filling.

The President remarked, that by the articles of association, it was made his duty to address the Convention upon such subjects as he might deem useful and important for their consideration. This duty he would respectfully decline, as the Convention was composed of those, whose collective wisdom it would be presumption in any individual to advise. He took occasion, however, to report certain expenses which he had incurred in behalf of the Convention, for the use of the room, and for a full report of the proceedings. The cost of the room would be \$12, and \$2 for janitor. The cost of a report of the proceedings, supposing it would not exceed a certain amount of matter, would be \$50.

On motion, the report of the chair was received and adopted.

The next business in order being the election of officers,

Dr. F. H. Clark, of New York, moved that the officers nominated be elected by ballot, and that, if no majority was obtained on the first ballot, then the three highest be put in nomination, and that a plurality should elect on the second. Carried, and Drs. Taylor, of Ohio, and Dalrymple, of New York, were appointed tellers.

The following officers were, after balloting, declared elected :—

President.—Chapin A. Harris, of Baltimore.

Vice-President.—Daniel Neall, of Philadelphia.

Recording Secretary.—Elisha Townsend, of Philadelphia.

Corresponding Secretary.—W. W. Allport, of Chicago.

On the ballot for President, Dr. Harris received 47 votes ; Dr. Neall 19, and Dr. Rich 15 ; scattering 22. The two latter candidates having declined, Dr. Harris was, on motion, declared unanimously elected.

On the ballot for Vice-President, Dr. Neall received 31 votes ; Dr. Dwinelle, 21 ; Drs. Blakeslee, Taft, and Crowell, 6 each ; scattering, 14. The three lowest candidates having withdrawn, a formal ballot was taken upon the two highest, when Dr. Neall received 53 votes, and Dr. Dwinelle, 17. The election of Dr. Neall was then, on motion, declared unanimous.

The resolution of Dr. Clark, of New York, was, on motion of Dr. Kendrick, of Natchez, suspended for the election of the secretaries, and, all the candidates nominated having declined, except the gentlemen named above, they were elected *viva voce*.

The chair appointed Dr. Clark, of New Orleans, and Dr. Townsend, of Philadelphia, a committee to escort the President elect to the chair.

On motion, the Convention took a recess till 4 o'clock.

AFTERNOON SESSION.

The Convention having been called to order, the President elect was escorted to the chair by the committee appointed for that purpose.

Dr. Rich, in retiring from the chair, returned his thanks to the Convention for their uniform kindness and support toward him in the discharge of his duties. It was a source of great gratification to him to find that he had always been supported and sustained during his term of office. (Applause.)

Dr. Townsend, of Philadelphia, introduced the President elect as the pioneer of Collegiate Dental Education, not only in this country but throughout the world, and as one of the first who advocated dental association. He felt proud to see him take his place at the head of this democratic convention of dentists. (Applause.) His generosity and good nature were known to every one of them, and his heart, like his body, was large enough to take them all in. (Laughter.)

The President scarcely knew how to thank them for the honor conferred; it was the more gratifying because unsought. He promised to use his best efforts in the discharge of the duties that devolved upon him, in a faithful and impartial manner; but, having had little experience in presiding over deliberative bodies, he begged their kind indulgence and assistance. (Applause.)

On motion of Dr. Ballard, a vote of thanks was unanimously tendered to Dr. Rich, the retiring President, for the very able manner in which he had discharged his duties.

Dr. Rich thanked them for their appreciation of his efforts.

Dr. Clark, of New Orleans, was instructed by the Committee on Business, to report the following resolution:—

Resolved, That, in the discussions, each member be limited to — minutes.

Motions were severally made to fill the blank with 15, 10, and 5 minutes. The 10 minutes rule prevailed, and

The Convention then took up, as the next business in order, the subject of the

Pathological Condition of Diseased Dentine, and its Treatment.—Some hesitation being shown by members about leading off in the discussion,

Dr. Clark, of New Orleans, suggested that Dr. Geo. Watt, of Cincinnati, read a paper on the subject.

Dr. Watt preferred, as his paper related to remedies, that the pathological condition should be first discussed.

Dr. James Taylor, of Cincinnati, by particular request, opened the discussion. He considered this as decidedly one of the most important subjects that could be brought before this body. A great deal had been written upon it; but, when they came to compare it with their own observations, they found that a great deal had been left unsaid. All disease, to be correctly treated, should be perfectly understood, when they could get at the cause of the disease, they were, to a certain extent, prepared to go to work and apply the appropriate remedy. Every individual who had practiced the profession, must have noticed that all the conditions of decay were not of a similar character, but presented very different modifications. They often had to deal with excessive sensibility, and generally, in connection with that, there was a peculiar physical condition of the disease going on. There were many who did not stop to inquire into the causes producing this certain condition of disease. They could not take it for granted, for instance, that they had the same causes of disease in the sensitive condition of the dentine as they had in cases where there was no sensibility at all. To treat properly these cases, they must necessarily inquire what were the causes producing this difference. He took it for granted that, in a healthy condition of the dentine, there was a circulation kept up through the dentine itself, and there was not, therefore, an excessive sensibility. All the changes which took place, then, in this condition of dentine, he regarded as a pathological condition, departing from health. There were three, four or five different kinds of decay; he would speak of three of the most prominent. In the first place, there was the black decay, which had very little sensibility. In this there was a mere deadening of the dentine, a breaking up of the circulation and the destruction of the vitality, ordinarily without much disintegration of the parts. In the second place, there was the brown decay, in which there was a disintegration of the parts, the living or earthy portion, in most cases, being entirely destroyed, leaving the cartilaginous portion in a soft state. Then, there was a third variety, called the white decay, in which more of the cartilaginous portion of the tooth was destroyed than of the earthy part. These three different kinds of decay were certainly caused by different agents, and required very different treatment. In the first, there was very little sensibility; in the second, sometimes a great deal; and, in the third, always an excess, unless the case was modified by certain conditions of the secretions of the mouth. The chemical agent which acted upon the cartila-

ginous parts was certainly different from that which acted upon the living parts. By immersing bone in muriatic acid nearly all the lime would be removed, showing, conclusively, that a different chemical agent caused the brown decay from that which caused the white. Hence, the importance of understanding this subject, in order to get at the proper treatment. Even, after the best surgery, the organs were liable to further progress of the disease.

Dr. Townsend, of Philadelphia, said that he was here to obtain instruction upon the subject, and, therefore, he did not feel authorized in saying a great deal upon the question now under consideration. He had noticed the same conditions of dentine of which the preceding speaker had made mention. He had felt, as doubtless they had all more or less felt, that, when they removed the carious portion of the tooth, they had not done all that he hoped some day to see their profession doing for the patients who should come under their hands. If they did nothing but remove the portions of the tooth which were decayed, and render it, mechanically and artificially, sound, so far, perhaps, as that particular spot was concerned, they had done their duty; but, certainly, they had not made their art a scientific one, unless they looked farther than this, and unless they looked to the prevention, in other parts of the mouth, of the same effects resulting from the causes which produced the effect in this particular spot which they had carpentered. It was necessary that they should know something more of the pathological condition of the dentine than a great many of them did know. Perhaps they were all deficient in this kind of knowledge, and a good many of them, perhaps, had been satisfied with merely the routine practice of cleaning out cavities in the teeth, as if their whole duty to their patients and the dental profession was thereby fulfilled. It reminded him of a remark made by a gentleman to him, when he commenced his profession. "So," said he, "I find you have got to be a mouth-carpenter."

Very early in his practice he had ascertained these conditions. He found in some cases that this exciting sensibility was almost unbearable, and that the sensibility was, like that of all the other nerves, greatest at the extremities, closest to the enamel or between the enamel and the dentine, and that frequently when he cut in below, the sensibility was entirely gone. This sensibility he attributed to inflammation of the dentine, analogous to that produced by a wound in any other part of the body. Accordingly, he suggested to an anatomist of considerable skill, whether there might not be a circulation in the dentine out entirely to the borders of the enamel, and whether there were not

fibrous nerves passing through the whole body of the dentine, which caused extreme tenderness in some cases from inflammation. His friend laughed at him, and said that there were no nerves there to become inflamed. He, however, ascertained that in excavating a deep cavity that ran into the medullary membrane, the sensibility at the extremities was entirely gone. This proved to him by deduction, that the tenderness existed in the branches of nerves that could not be discovered except by a powerful microscope. He had since had the pleasure of seeing these branches of the nerves by means of a microscope, extending out to the enamel, and in some instances actually penetrating half way through it, proving his hypothesis correct by actual observation.

He had not found, he was sorry to say, how to correct these diseased conditions. That was a great thing to be discovered, and would, if discovered, be what many of them now considered one of the ultimatums of their labors.

Dr. Dwinelle, of New York, indorsed the theory of Dr. Townsend. The dentine was ramified by tubuli, which lay at right angles with the nerve, as he had seen through a microscope. He had some specimens which he would be happy to show to any member, at his office. The tubuli were 1-6,000 or 1-7,000 of an inch in diameter, and were subdivided, so as to form little canals or caniculi. What fluid charged these tubuli was matter of hypothesis; it was probably more subtle than the ordinary gross fluids of the body, something like the electric or neuratic fluid. The most sensitive part of the nervous system was the surface; a scald or burn produced a hundred fold more pain than the severing of a nerve. That seemed to be a law of the animal economy, and it held good in reference to the teeth, the most sensitive part of the teeth being the outer surface of the dentine covered by the enamel, and the most sensitive point of the most sensitive part was where the dentine formed an acute angle with the enamel at the furthest surface. Dr. Maynard, of Washington, several years ago, suggested the propriety of severing the tubuli at the lowest point, for the purpose of destroying the sensitiveness. The idea was a philosophical one—to cut them off at the base.

The remarks of Dr. Taylor were correct concerning dental caries. With regard to remedies, he had found the best one to be a solution of chloroform and chloride of zinc, and before the Convention adjourned he hoped to have the privilege of reporting a case of the excision of the superior maxillary, in which he used the solution with most happy results.

Dr. D. A. Stackpole, of New Hampshire, had examined the tubuli through a microscope, but he was not satisfied that any fluid existed in

them. They were there for a wise purpose, undoubtedly, but what that purpose was, he conceived was not yet ascertained. He found in his practice, that in some instances the nerve extended not only through the dentine, but through the enamel. In some cases they would find that by rubbing an instrument, or the finger nail even, upon the enamel, there would be extreme sensibility manifested. A patient, under these circumstances, frequently would ask to have the cavity of the tooth filled, when in reality, there was no necessity for it. He trusted that this matter would be fairly discussed.

Dr. Jonathan Taft, of Xenia, Ohio, said that the condition of the diseased dentine which the dentist most frequently met, was an inflamed and sensitive one. This condition was attended with various circumstances, and was various in its character and degree. The exact nature of inflammation of the dentine, they all would admit that they did not understand, although the subject was much better understood now than a few years ago. There was much for them yet to learn in regard to the pathological condition of the teeth. It was impossible to ignore this condition, and operate with success upon the decay of the teeth. This condition was modified by various circumstances, by the characteristics of the teeth, by the constitution of the person, and by the action of the agent producing the decay. In many cases the sensibility was only at the point of union with the enamel; sometimes it extended at a particular point within the cavity; sometimes the entire dentine of the crown of the tooth was inflamed, and sometimes it was to be found only within the lamina outside of the cavity. It would be nonsense to apply the same remedy to all these cases. If the inflammation was not stopped, the undecayed, as well as the decayed teeth, would partake of the sensibility. There were cases where it was impossible to reduce the sensibility without constitutional change or treatment, and common sense suggested that that treatment should be different.

Dr. McQuillen, of Philadelphia, had always questioned applying the term inflammation to that condition; he thought inflammation impossible. Was it possible that tubuli 1-10,000th of an inch in diameter could become the seat of inflammation? The existence of blood vessels in the dentine he considered a work of supererogation. Could not the circulation go on without the use of the blood-vessels? Did we not find a circulation of sap in the vegetable economy, where the vessels absorbed it like a sponge? He conceived that the circulation in the dentine was analagous to that, and if there were no blood-vessels, how could there be inflammation? Heat, swelling, tenderness and

redness, were described as conditions of inflammation. It was said by some that they had discovered blood in the dentine; if so, it was due, in his opinion, to a rupture of adjacent blood-vessels, forcing the blood into the tubuli and producing discoloration. The tenderness of the dentine was discovered only when touched by the instrument; in inflammation, pressure upon the part only increased the pain that was already there. It seemed to him, therefore, that it was incorrect to call this sensibility, inflammation, and that it was more reasonable to suppose that the fluids of the body were very materially changed, and that the liquor *sanguinis* passing into and ramifying the dentine produced this change in its condition, called exalted sensibility. He believed with his friend, Dr. Neall, that the most efficacious remedy was a sharp instrument.

The President, at the suggestion of Dr. Rich, made a few remarks upon the subject. He had but a single thought that he wished to bring forward at this time, having heretofore in other places said a good deal upon it. Between the dentine and the enamel was a membrane, which was termed by Rashkow, the preformative membrane; others had termed it the true or persistent membrane of the pulp of the tooth. In his opinion, that membrane performed one more important part than was generally supposed—a different function from any that had ever been ascribed to it. Accident had revealed to him that function. But he would ask to be excused from giving his views upon that subject now, as he was very desirous to meet his family this evening just out of the city, from whom he had been separated for several weeks. He would return to-morrow morning, and would then take great pleasure in stating the result of his discovery.

Dr. Neall, (Vice President,) accordingly took the chair. He conceived that the dentist ought to know everything of the physiological as well as the pathological conditions of the dentine. He sometimes found it impossible to fill the soundest tooth without making the patient vibrate like a fiddle-string.

Dr. Smith, of Connecticut, considered all theories and speculation on this subject, as of little practical benefit. It was very evident that exalted sensibility was a disease; would any gentleman show us a sure remedy? Some had tried this and some the other thing. He had adopted a very simple remedy. He had been led to believe that the sensibility was communicated through the medium of the gums, because he found that by cutting away the gums a little, he could excavate without pain. He was not sure whether it was imagination, or whether it was that the cutting of the gums caused so much more pain, that the patient was enabled to submit to the opera-

tion so well. He had tried chloroform and chloride of zinc, in numerous instances, and had produced satisfactory results in, perhaps, one case out of seven. With chloroform, alone, he removed the sensibility for the moment, so as to cut away the decay without pain. With chloride of zinc, alone, he thought he had sometimes received benefit.

Dr. Barbour, of Norwalk, Conn., had tried all the various remedies, but found them uncertain; and the only thing he could rely upon was a sharp excavator, and to excavate close to the enamel. He had found one patient upon whose teeth it was impossible to operate; he was all nerve. Patients who had highly sensitive teeth had generally a disordered system, particularly the bowels. He had been in the habit of prescribing cathartics for such, and after getting the system regulated, he found he could operate with far less sensitiveness on their part. There were cases, however, where he could not remove the sensibility at all. In a case that he operated upon yesterday, where the tooth was extremely sensitive, he had put ether into the cavity, and after half an hour excavated it and filled the tooth, with a considerable less degree of pain than the patient had suffered heretofore. He, however, considered it more the effect of the imagination than anything else. Excavation with a sharp instrument immediately between the enamel and the dentine was the best remedy in his judgment.

A member asked Dr. S. how long it took to bring the system to the right state by the use of cathartics.

Dr. Barbour replied, from three days to three months.

Dr. Rich inquired if he left the cavity in the tooth open during the time he was treating the system in the cases where it took three months.

Dr. Barbour said he did.

Dr. S. V. Howard, of Maine, had found that an application of pulverized Spanish flies would, in some cases, destroy the sensibility in a very short time. He had found, what others probably had observed, that by cutting in a different direction with the excavator, he could get along with a sensitive patient pretty comfortably in nine cases out of ten.

Dr. F. M. Dixon, of Pottsville, Pa., said that his own experience he must confess, had been the reverse of that of Dr. Barbour; he had found some of the most nervous and sensitive patients to be those who were the most healthy and whose digestive organs were in a good condition. In regard to this sensibility of the dentine, nature seemed to have been very irregular—more so than in any other part of the system; and the idea had occurred to him that if the nerves were to b

found running in different directions in the dentine, some teeth might be less supplied with nerves than others, and some particular parts of the same teeth less supplied than others. And this idea seemed to be borne out by the fact, that the dentine was found to be more dense in some parts than in others.

The different kinds of decay had been alluded to by Dr. Taylor. He conceived that, perhaps, the cause of these different kinds of decay was attributable more to the condition or structure of the teeth than to anything else. For instance, the white decay was found in very white chalky teeth, and seldom in teeth of dense structure, which were more commonly effected by black decay. He would merely throw out this suggestion to lead others to make their observations.

On motion of Dr. Bonsall, it was ordered that when the Convention adjourn it be to meet at 10 o'clock to-morrow.

The Convention then adjourned.

SECOND DAY.—MORNING SESSION.

The Convention assembled at 10 o'clock.

Dr. Clark, from the Business Committee, reported that they had assigned 12 o'clock, M., for the reading of a paper, by Dr. Townsend, of Philadelphia, on "Professional Fees."

Dr. Townsend, of Philadelphia, announced that a meeting of the American Society of Dental Surgeons, was held at 9 o'clock, A. M., and that they refused to consider anything but the business laid over from last year, viz: the expediency of dissolving the society; and the society voted unanimously in favor of the dissolution. The announcement was received with applause.

Diseased Dentine.—This subject being resumed,

Dr. George Watt, of Cincinnati, by express desire of the Convention, read a paper on the subject of the "Action of Pathological Remedies on Inflamed Dentine." He stated that it was written for publication in the *Dental Register*.

Dr. Robert Arthur, of Philadelphia, said that the question now under consideration had been discussed by their profession over and over again. He had nothing particularly new to say upon the subject. He had listened with a great deal of pleasure to the reading of the paper just presented to the Convention. There was not only a mechanical, but a physiological point of view, in which this question was to be considered. He proposed to present very briefly his views in regard to this matter of inflamed dentine. The condition of dentine, termed sensitive, was not a healthy condition, and was a change

from a normal condition. This fact was well established, that although the dentine of a perfectly healthy tooth had a certain degree of sensibility, it was increased when caries set in and it was exposed to contact with the fluids of the mouth. This was illustrated by the fact that when a carious cavity was prepared for filling, which was slightly sensitive, it became still more so after a lapse of time. The term inflammation, as applied to this condition of the dentine, had been objected to; but there was such a vital change in the parts that it was impossible, with their present knowledge upon the subject, to apply any term which would more clearly express the exact condition. Inflammation, so far as they could at present define it, was a local effect produced by the action of agents capable of producing irritation of the parts, a change of the circulation and nervous sensibility. Inflammation was not always accompanied by pain. It might lead to a simple exaltation of sensibility or a nervous irritation of the parts. Their knowledge of the intimate relation of the teeth was very imperfect. It was impossible to state clearly how the vital changes, even in the more vital tissues, where vessels could be traced, went on. Whether an increased circulation took place in this part or not, it was impossible in their present state of knowledge to ascertain. It was precisely the case with the dentine as it was with any other vital tissue, if it could be protected from the action of irritating agents, the sensibility would pass away or be relieved. It was not always possible to do this. Sometimes the caries was exceedingly slight, so that it was impossible to obtain a sufficient cavity in which to place any substance to protect it from the destructive agencies. Whenever it could be done, without danger of injury to the pulp, a temporary filling, composed of a substance which would resist the action of the fluids of the mouth, was sufficient, if the patient could take sufficient time for the parts to become restored to a healthy condition. That fact had been well established, and hence, this was one of the most reliable methods of treating exalted sensibility. But in the great majority of cases it could not be done on account of the nearness of the pulp. In these cases escharotic substances, capable of destroying the vitality of the part, might be used with advantage and safety.

Of all the agents used for that purpose known in the profession, that which had been found the most reliable was arsenious acid. The great objection to the use of arsenic was its liability to absorption. Beside the chemical view of this subject, there was another view to be taken. In order that absorption might go on, vitality was necessary. This was evinced in cases of carious bone. Absorption did not take place

in a portion of bone deprived of vitality; and this was precisely the case with devitalized dentine; when the superficial layer of the dentine was deprived of vitality by arsenic, it lost its powers of absorption. It was the fact, nevertheless, that in time the arsenious acid would pass through the devitalized dentine to the pulp, but that was simply by infiltration through the layers of the dentine. Such was his view of the matter.

The question then was, how could it be used with safety? Arsenious acid, in his opinion, might be applied with perfect safety, if the cavity of the decayed tooth was a superficial one, and if the arsenic was not allowed to remain too long. The most sensitive parts of the tooth to excavate were those lying nearest the edge of the cavity; and in many of these cases, it was sufficient to protect the thin line of dentine over the pulp, by a layer of wax, and then apply the arsenic upon the superficies of the cavity. This was not a mere matter of opinion; an experience of some fifteen years, justified him in saying that it was a safe and proper remedy if judiciously used. Much had been said against it because of the frequent injury arising from its injudicious use. Still, where it could be avoided, of course it should be, and a few sharp cuts of the instrument would remove the difficulty.

Dr. Watt, of Ohio, inquired if he used arsenious acid in combination with anything else?

Dr. Arthur said he used arsenious acid alone, and until a few years past he had always used it dry. His usual practice was to allow it to remain ten or twelve hours only to avoid any possible danger. In some cases, the sensibility was not destroyed, but rather increased, by one application, in which case a further application was necessary. He had used arsenic in form of cobalt, which was less dangerous; that might remain twenty-four hours. He had never seen any instance of the destruction of the vitality of the tooth, even after the lapse of many years, where arsenious acid or cobalt had been used.

Dr. Rogers, of Utica, asked if he put in any thing to neutralize the acid?

Dr. Arthur said he usually did not, but in twenty-four hours he did not fear the penetration of it to any depth.

Dr. Allport, of Chicago, inquired if he put in any thing to neutralize the acid before he put in the temporary plug?

Dr. Arthur.—Nothing, whatever.

Dr. Colburn, of Newark, New Jersey, said that with reference to the brown decay, which they all had no doubt found the most sensi-

tive, had made use of mechanical pressure as the surest remedy. He had been more successful with it than with all the applications put together. He applied his finger, covered by the napkin, to the edge of the gum in contact with the decay, and pressed with great force, after which he could excavate successfully in most cases. The decay could generally be removed in a continuous lump. There were some cases, however, in which he could not get at it. He did not conceive the sensitiveness to be conveyed through the tubuli, but through the periosteum. If the sensitiveness was conveyed by the nervous system through the tubuli, why would not the bottom of the cavity be as sensitive as the top? There seemed to be a sympathy between the edge of the gum at the junction of the enamel and the bony part, and the pressure of the finger-nail would usually entirely destroy the sensitiveness. If the finger-nail was pressed just below the gum in a healthy mouth, the same sensitiveness would be produced as existed in the case of this disease. He referred only to brown decay on the outer surface of the teeth.

Dr. Ballard, of New York, thought the gentleman had a peculiar physiological theory of his own.

Dr. Colburn said he offered the result of his own experience, and the members of the Convention might receive it as they thought fit.

Dr. Rogers, of Utica, had used arsenic some twelve years ago to destroy pulp, and was induced to use it to destroy dentine where it was extremely sensitive. Previous to doing so he had no knowledge of its being used for that purpose. The operation was successful in destroying sensitiveness. He saw his first work done in this way some three years afterward, but was not quite satisfied with its appearance. He thought it appeared slightly discolored beneath. He had at first used it more as an experiment, but for the last three or four years he had used it with more confidence, and recently having had occasion to inspect some work done three or four years ago where it was used, he found it looking very well indeed.

Dr. Rich inquired if in the first case the discoloration appeared to be in the whole body, or immediately under the filling.

Dr. Rogers replied, that it appeared in the whole body of the tooth; but that was the only case he had discovered with such an appearance, and he was pretty well satisfied that he had not treated it as he ought to have done—that he had allowed the arsenic to remain too long.

Dr. Kendrick, of Natchez, inquired if he used in that case dry arsenic or in solution?

Dr. Rogers.—Dry.

Dr. Rich inquired of the gentleman from Newark, how he managed to get his finger-nail under the edges of the gum when the tooth was very small—if he had his nail sharpened into a point? It seemed to him a mechanical impossibility.

Dr. Colburn.—When it is a mechanical impossibility, I do not expect to do it. (Laughter.) He had generally, however, been able to accomplish it; if any gentleman had found it different he would like to hear it.

Dr. Searle, of Springfield, thought the secret of the effect produced of destroying sensibility was by producing another pain.

Dr. Colburn admitted that there might be something in that.

Dr. Ballard, of New York, had, during the last four months, a family of four young ladies under his care, whose teeth had been treated with arsenic. The dentine was extremely sensitive and the cavities were nearly all superficial. They had lost several teeth, and altogether they had some twenty-seven or twenty-eight teeth whose vitality had been entirely destroyed by the use of arsenic. One of them, he believed, had ten teeth discolored. In two or three instances the nerves had been exposed, but generally the decay was superficial. The teeth had been mostly operated upon two or three years ago with arsenic.

He had great faith in sharp instruments, but he frequently used chloroform and chloride of zinc.

But there was a remedy which had not yet been referred to, though it could hardly be considered a point of practice; it was simply leaving nature herself to perform the cure. If the dentine was simply protected from foreign influences, and left to itself, it would entirely recover its tone. It was necessary in that case to prepare the cavity as carefully as possible, and put in a temporary covering of gutta serena or wax.

Dr. Arthur inquired if the dentist who had operated on the teeth of the four young ladies was a skillful one.

Dr. Ballard said he had a high reputation as an operator and his work was handsomely done. He had understood from them that the arsenic was put in one day and taken out the next.

Dr. Flagg, of Philadelphia, thought the last speaker rather too sweeping in his remarks against the use of arsenic. It was liable to accident, it was true; but every gentleman of the profession present knew that it could be used with safety in the hands of a judicious operator. They were much more liable to accidents with that agent

because it was much more active and powerful than any other agent. He would never allow it to remain in the cavity of the tooth longer than five hours at a time, for he considered if it remained longer than that time, it would penetrate the tooth so much as to produce material injury. Some years ago he removed the crowns of four incisor teeth, together with the two cuspidati, for the purpose of inserting artificial crowns. They were most of them very sensitive, and being belated in the operation, instead of depending upon an instrument to probe the nerve cavities, the nerves being alive, he made an application of arsenious acid, directing his patient to take it out before she slept, to rinse the mouth, and then apply cotton to the cavities, and return to him in the morning to have the crowns placed upon the roots. He saw nothing of her for two weeks, when she told him that the roots had been so comfortable she had had no occasion to call. He found, on removing the little pledget of cotton, that the periosteum of the roots were so far destroyed, that the roots came away in the attempt to remove the cotton. Every thing was in a healthy condition previous to his applying the arsenic.

Dr. Taft, of Ohio, said that when a case of sensitive dentine was presented to them, they must consider the modifying circumstances attending it. The same course of treatment could not be indicated, of course, in all cases. The treatment that would be indicated in the teeth of a young person might not be indicated in the case of an older person, although the same constitutional peculiarities might exist in both cases. When a case was presented to them, they must consider all the circumstances attending it—what were the constitution and age of the patient, the peculiarities of decay, the nature of the agent producing the decay, the amount of sensibility to be allayed, and whether it was of a chronic or acute character. These circumstances should all be considered before they went to work, in order to treat the cases in their hands rationally; and when they had ascertained all these circumstances, they could then indicate the treatment to be adopted. It was always desirable that the dentine should retain its vitality. To accomplish that, sometimes constitutional treatment was necessary; in other cases, it was sufficient to shield the part from the action of exciting agents. He had found Hill's stopping as good as anything else for temporary filling: it was more easily applied than gutta serena, would not contract by cooling and would remain longer in the cavity.

Again, it was sometimes necessary to destroy the sensibility or vitality of a particular part, and at the same time shield the other

parts, so as to preserve the life of the tooth. It was desirable that all the dentine left should retain its vitality. Some agents would produce the decomposition and death of a thin lamina of dentine, without injury to the rest—such as nitrate of silver and chloride of zinc.

Again, it was sometimes required to destroy the vitality of the entire tooth, in which case, arsenious acid was the proper agent. Chloride of zinc acted only on that portion of the living tissue with which it came in contact, and in a very little while it became saturated and would act no further; and so with nitrate of silver, tannin and kreosote, but not so with arsenic. Arsenic was absorbed by both the living and dead dentine by capillary attraction, and conveyed to the periosteum, producing suppuration; hence the necessity of using it with great caution. In many cases, particularly in young persons, where the teeth were highly vascular, it would be improper to use it at all. Some twelve years ago he had applied it to a very small cavity in a central incisor of a lady sixteen years of age. It was applied in the evening, and in the morning it was removed, and the next day the tooth was excavated and filled. After three days it became slightly painful, and appeared of a deep bluish cast, and on removing the filling and drilling into the cavity, he found the pulp dead. The arsenic had remained in the cavity fourteen or fifteen hours.

Being asked if it was not possible that the death of the tooth was caused by mechanical pressure, Dr. Taft replied, that he was not aware of any pressure being applied; the teeth were separated sufficiently by nature.

Dr. Clark, of New Orleans, said the main question of interest to the profession, was not how they could save their patients from pain, but how they could preserve the life of the tooth. He was very well satisfied with the direct surgical treatment in all cases of superficial caries. But, to leave this question for a more interesting one. After excavating a deep-seated caries in a large molar or bicuspid tooth, after a thorough examination of the diseased part by a microscope, he had often been unable to determine whether he ought to remove or treat in order to save the life of the tooth. Leaving aside all minor considerations of pain in excavating, could gentlemen tell him the pathological condition of the dentine, when it presented a soft and sometimes discolored appearance, where great care was required to avoid reaching the pulp and ruining the tooth; and could they give him a treatment that would save the life of the tooth? He was very anxious for light upon this point. It had been a matter of serious investigation with him, and he had no doubt he had sacrificed many teeth where they

might have been saved—sometimes by operating where he should not have done it, and sometimes by postponing the operation.

Dental Fees.—According to appointment Dr. Townsend, of Philadelphia, read a paper on “Dental Fees,” which was frequently applauded.

Dr. Rogers offered a resolution, “That a vote of thanks be given to Dr. Townsend for his very able paper, and that it be published in pamphlet form, to circulate among the members, at the expense of the Convention.”

A member asked if the paper was the property of the Convention, Dr. Townsend, or Dr. Clark?

Dr. Townsend believed he had the right of disposing of the paper, and he therefore gave it into the hands of the Convention, to do with it as they pleased.

Dr. Rogers would like that the paper should be published, and offered his resolution in an amended form, so as to order that a certain number of copies (which was left blank) should be published.

Dr. Neall hoped it would be published, as proposed by other gentlemen, by putting their hands in their pockets.

Dr. Townsend said, that in order to defray all expenses, he hoped they would put their hands in their pockets, and stated that the assessment this year, for the expenses of the Convention, would be three dollars on each member present—that would cover the whole ground. A voice—“We’ll do it.”

Dr. Rogers thought the assessment should be on all the members, and not only on those present.

Dr. Ambler, of New York, hoped a committee would be appointed, not only on the publication of the address, but to endorse its principles. (Applause.) After some further discussion,

Dr. Rogers read the resolution as amended, as follows:

Resolved, That the thanks of the Convention be tendered to Dr. Townsend for his very able and interesting paper, and that a committee be appointed to take the whole subject into consideration, and to recommend such action as may be thought expedient, with reference to the address and the subject of it.

The resolution was carried, and Drs. Taylor, Ballard, and Clark appointed such committee. Dr. Rogers having requested to be excused.

A vote of thanks was then passed to Dr. Watt, for the able and interesting paper read by him in the morning.

Membership.—On motion of Dr. Ballard, the following resolution was adopted:

Resolved, That this Convention shall consist of all practicing dentists who may desire to take part in its proceedings; and that any

clause in the constitution conflicting with this resolution, be and hereby is repealed.

Diseased Dentine.—The Convention then resumed the subject of the “Pathological Condition of Dentine and its Remedial Agents.”

Dr. Taylor, of Cincinnati, considered that he had been benefited by the discussion, and that he could congratulate himself that he had been profited by his journey from the West to attend this Convention. As regards the subject under discussion, he had felt the same difficulty that was suggested by Dr. Clark—he wanted information in regard to the treatment which would save the life of the teeth. For instance, there were teeth in which the decay had almost reached the nerve, so that many would suppose that the nerve was actually reached by it. It was important to know whether the nerve was really exposed, before they attempt to operate. The mere fact that very cold water taken into the mouth produced pain, was not a diagnosis that the nerve was exposed, or was in a state requiring to be destroyed. He had repeatedly had patients come into his office, saying that such and such a dentist had refused to operate upon a cavity, because the nerve was exposed. He took the ground, that whenever by introducing the instrument around under the enamel, they could find sensibility, the nerve was not utterly exposed; there was always in that condition, a lamina of bone protecting the pulp, which, if it could be saved by the application of any remedial agent, would preserve the vitality of the tooth. And here the question would present itself, is the dentine in such a state of inflammation as to require the dissolution of the parts, or is it in a state of exalted sensibility? The idea of the blood getting into the dentine, was hardly to be entertained, but there certainly was increased circulation. Now he contended that increased circulation was necessary for the proper deposition of bony matter, for the ultimate protection of the pulp. Hence, if any remedy could be applied to arrest the decomposition, the tooth might be saved.

The next thing to be considered was, what agents are indicated by which they might accomplish this result? And here he would say that the essay by Dr. Watt closely covered this ground. He had pointed out in that essay, certain agents which formed insoluble compounds by which the progress of the disease might be checked, until nature had an opportunity to restore the parts to a healthy condition. Upon those remedial agents he (Dr. T.) had predicated his treatment, and he had persevered, week after week, and sometimes month after month, in order to preserve the life of the teeth. Great patience and perseverance were required in those cases. He regarded the considera-

tion of these insoluble compounds as an important one. They should be such as not to destroy the dentine itself, and this was the reason why he used, in all such cases, tannin and kreosote, instead of a chlorine preparation.

In regard to this tender condition of the dentine, he had but one remark to make, and that was, that it would often be found that the patients did not properly control their diet during the treatment. He thought a great deal of difficulty in practice arose from patients not observing a proper diet, by refraining from vinegar and other acids.

Dr. C. A. Harris, of Baltimore, (Dr. Neall in the chair,) said, that the question before the Convention for discussion, was the pathological conditions of dentine, and their remedial indications. Only two of these conditions had as yet been noticed. The first was that peculiar structural alteration, denominated caries, consisting, as is generally believed, in a chemical decomposition of the earthy salts, and partial or complete disorganization of the animal framework of the affected part. This was one of the pathological conditions that had been discussed. The other was exalted sensibility of the dentine, usually termed inflammation. The first of these conditions was the result of the direct action of chemical agents, although it was contended by some writers that inflammation was necessary, and that inflammation and death of the affected part preceded the action of the chemical agents, which produced the structural alteration. That this opinion was incorrect was demonstrated by the fact that long after the decomposition of the earthy salts, sensibility remained in the animal framework, so that, if touched with an instrument, the keenest pang of pain was oftentimes produced, and yet the action of chemical agents had been going on until the earthy salts were completely removed. So, then, it appeared obvious that the disease, or structural alteration was wholly the result of the action of chemical agents.

Where do these agents come from? Were they generated spontaneously in the mouth, or were they eliminated from the remains of particles of alimentary substances lodged in the interstices of the teeth? Doubtless from both sources. According to the tables of elective affinity, there were only four acids capable of producing such effects upon the teeth, or, in other words, which precede the action of phosphoric acid, in their affinity for the lime which constitute the chief part of the solid ingredients entering into the composition of dentine. But it was well known to dentists and others, that all the acids, both vegetable and mineral, did act upon the teeth, but not in the same way.

There were only four, perhaps, that were capable of acting, chemically ; but others, as the muriatic, act as solvents.

The other pathological condition consisted merely in exalted sensibility or inflammation, as it had been oftentimes called, and perhaps very properly, although they might not find all the phenomena present characterizing the disease as exhibited in other parts of the body. This exalted sensibility might depend upon a great variety of circumstances, possibly upon mere constitutional idiosyncrasy, or temperament or habit of body, or upon some peculiar physical condition of the tooth itself. That was a point which had never been satisfactorily determined. They found it in teeth of a very dense structure, as well as in teeth of a chalky texture. They found it in persons in the enjoyment of the best constitutional health, and also in persons laboring under disease, so that it was difficult to determine, with any degree of certainty, upon what this peculiar sensibility depended. He would not take upon himself to determine, although it was known that some conditions of the general system were more favorable to the development of this sensibility than others. Dyspeptic patients were peculiarly liable to it.

There were some other pathological conditions of dentine which had been noticed. One was suppuration, although he believed there was only one example of this upon record. He was disposed to think, from the description which had been given of it, that the writer who had recorded this example was mistaken, and that the earthy salts had been removed by the action of some acid, which had found its way to the part affected, through a fracture in the enamel ; the animal framework remaining in a partially disorganized state, the supposed abscess having occurred immediately under the enamel. That was the only example he had found on record.

With regard to the remedial indications of these conditions, it was scarcely necessary for him to say anything, having already, in another place, expressed his opinion at considerable length upon the subject ; and more especially as so many gentlemen had spoken upon the subject, and had covered very nearly the whole ground. Yet he might be permitted to add a single remark. In that peculiar pathological condition designated exalted sensibility or inflammation, it was often the case that when the caries had extended only half way from the peripheral surface to the central chamber of the tooth, the painful impressions conveyed through the conducting medium of gold, when the tooth was filled, were such as to give rise to irritation and inflammation of the pulp, which had been known in numerous instances to result in suppuration. He had always succeeded in preventing this painful impres-

sion, by the interposition of some non-conductor between the gold and the floor of the cavity in the tooth. Sometimes he had filled the cavity completely with a non-conductor, and permitted it to remain for some weeks or months, when, upon removing it, he had been enabled to fill the tooth without any further apprehension. And in many cases where the nerve was actually exposed, nature employed means to prevent injury by the exudation of coagulable lymph, and the formation of callous and osseous structure, very analogous to osteo-dentine or bone. He had several specimens sent to him by members of the profession, in which the pulp was converted into this substance.

The Convention then took a recess till 4 o'clock, P. M.

AFTERNOON SESSION.

On motion of Dr. Taft, the Business Committee was retained in office till next year, and was requested, in the mean time, to prepare the business.

On motion of the same gentleman, the Convention resolved to close the discussion of the present subject at 5 o'clock.

Dr. Clark, of New Orleans, wished to settle the use of a term that had been used a great deal during the morning session, and that was "inflammation." He wished to inquire whether inflammation could be considered as any thing else primarily than an increased circulation, and whether the other phenomena were not results of that.

The President, (Dr. Harris,) stated that that question had never been very satisfactorily decided by writers upon pathology. There was a great deal of diversity of opinion upon the subject. Inflammation, no doubt, does sometimes occur without tumefaction,—all the other phenomena being present. But still, as a general thing, there is congestion, as well as an increase of vascular action in the affected part. He did not feel prepared to attempt a definition or explanation of a subject about which there still remained so much difference of opinion.

Dr. Watt remarked, that inflammation was something more than increased circulation. There was increased circulation in the act of blushing, but no inflammation. In congestive fevers there was an increased amount of blood in the parts, but that was not inflammation.

Dr. Clark, of New Orleans, said the question was whether the word inflammation could be properly used where increased circulation only was present. There was no redness in the dentine; the red corpuscles of the blood did not ramify it; but there was sensitiveness indicating an abnormal state. He thought it was pretty clearly settled by writers

that increased circulation could exist where there was no blood, but other fluid.

Dr. Munson, of Washington, thought that in inflammation the gelatinous portions of the blood stopped the free circulation of the red globules, and inflammation was the result.

The President considered this a very difficult question to pronounce positively upon.

Dr. McQuillen, of Philadelphia, considered it not altogether a matter of tweedle-dum and tweedle-dee, what term was used, as some gentlemen seemed to suppose. He repeated what he had remarked before, that there was but one of the phenomena present in diseased dentine, showing conclusively that the term inflammation was incorrectly applied. He might place his body in contact with fire and get it very warm, but that was not inflammation. None of them ever saw supuration of the dentine; and dental caries was regarded by few as mortification, but rather as chemical decomposition.

Dr. Watt had suggested the use of nitrate of silver for this disease. He himself regarded it as a hazardous practice, likely to produce discoloration of the teeth. He had never used it on living teeth, but had found it to produce discoloration on dead teeth. He had seen a case to-day of a permanent discoloration of the skin, produced by administering nitrate of silver for epilepsy.

Dr. Watt said that the application of nitrate of silver to any osseous tissue destroyed to a certain depth the vitality—the surface was destroyed and there was nothing more to be apprehended. But it was quite different when taken internally, the oxygen being deposited in the skin.

Dr. Clark, of New York, had been in the habit of using nitrate of silver to reduce sensitiveness of the dentine for more than twenty years; in fact, the first effort he ever made was with that substance, and he had applied it a thousand times since. He let the nitrate discolor as much as it would and then scraped it out clean, and had never discovered a stain afterwards. He supposed that every dentist used it. He had also found advantage in making a temporary filling of tin or lead, letting it remain for a few weeks, when he found he could excavate much closer. By letting it remain six months he had made some of his finest operations in cases in which he could not have kept the patient quiet enough for a filling of gold at first.

Dr. Taylor begged leave to make a remark or two upon this subject of inflammation. Perhaps no two subjects had troubled pathologists more than those of fever and inflammation. They all

knew that sometimes both the conditions of inflammation were absent. In acute inflammation, increased circulation, no doubt, was the first primary result, and yet congestion took place shortly afterwards and then diminished circulation. He accepted the definition of Professor Arthur, viz: An altered state of the circulation with an increase of nervous sensibility. The question then naturally arises, is there an altered circulation in dentine? If so, it followed that with exalted sensibility there was inflammation? The question of the presence of red blood has nothing to do with the definition, in his opinion. If there was increased vitality, circulation and sensibility, he thought the term was as well applied, and as well defined, as the word "tissue." It was difficult to define caries; in it was presented some of the actual conditions of mortification and also of gangrene. Caries was an altered, diseased condition of the dentine with the death of the part. Sometimes they had seen caries progressing to a certain point and then becoming checked. Sometimes the softened part was either worn away or thrown off and got rid of, and there was left a hard glossy substance. Now he doubted whether denudition or abrasion could be considered caries: according to his idea, caries was an altered, softened condition of the parts where the circulation had been arrested, producing an altered condition of the component parts of the tooth itself.

Dr. S. P. Miller, of Worcester, said he had used tannic acid alone and in combination with morphine to relieve sensibility. He had sometimes applied it two or three times where the nerve was exposed, and then put on a covering and filled the tooth, and he had yet to learn of any ill consequence arising from it. He had also used a composition of five parts arsenic, ten of tannin, and ten of morphine to destroy nerves, leaving it in twenty-four hours for superficial caries. This he supposed they would call mal-practice, but he had been successful in applying it to his own teeth as well as to those of others.

Dr. Taylor said this reminded him that Dr. Miller had promised to report a case; he would like to hear it now.

Dr. Miller said he had stated a case to Dr. Taylor, in which he had applied arsenic to his left canine tooth and thought he got along very successfully with it. It so happened, however, that the next day after the conversation with Dr. Taylor, it became very tender, so that he could scarcely bear the touch of his tongue to it. He let it go on and at length it commenced getting better, and finally absorption took place, and now it was no longer sensitive—but he could eat with it and it would bear as hard a knock as the one on the other side.

But he confessed that he would not try such an experiment on a patient. What he did was this: He told his student to apply arsenic as he could not bear the application of the instrument. Two or three applications were made. Having to leave town for several days, he carried the arsenic in the tooth during the time he was away. If he had made only one application and attended to it properly, he thought he should not have had the trouble he did. He had a constitutional trouble about the teeth, having lost five or six of his lower front teeth by absorption, therefore he did not think his own case a proper test. He had used arsenic for several families with admirable effect. In one of these families he had treated a superior molar of a boy with morphine and tannin some two months, and then filled it. It was last fall. During the winter he found the tooth as sensible in the lower part as if he had never exposed the nerve, and he had no trouble with it since.

Dr. Townsend, of Philadelphia. The gentleman admits then that he has destroyed the vitality of his own tooth?

Dr. Miller.—I do not; it is sensitive to-day to cold and hot water and to the scratch of his finger-nail. It is my purpose to have it bored to see, and I will report upon it hereafter.

Dr. Spencer Roberts, of Philadelphia, said he had applied caustic potash as successfully as most things. Like arsenic, it produced inflammation but it passed off with less difficulty. In almost every person they would find at least one or two sensitive teeth. After excavating, he took some ground feldspar and with a piece of soft orange wood, he rubbed around the cavity two or three times to reduce the sensibility. He used chloride of zinc also, as well as caustic potash.

Dr. Austin, of Baltimore, being invited to say something upon the subject, begged leave to decline as he was not now engaged in the practice of this department of dentistry.

Dr. Munson, of Washington, had used tannin and morphine as his main remedy. He had such bad luck with arsenic that he abandoned it very early; he thought it was absorbed into the body of the tooth and killed the nerve. He wet tannin and morphine with cold water, and then prepared a solution of gum sandrach in alcohol, about the consistence of cream. Sometimes he first put into the bottom of the cavity a plug of asbestos, and applied the tannin and morphine on the top of it, putting in a pledget of cotton wet in a solution of gum sandrach and alcohol, sealing it up and leaving it a number of days. If the tooth was still tender he made the application again. In that way he had usually succeeded in alleviating the pain.

Dr. Dwinelle said, many hypotheses had been suggested—he would like to suggest his. The dentine, as he had already stated, was ramified with tubuli, running at right angles, whose extremities reached out to the enamel, terminating in infinitesimal points. The other extremities opened into the nerve cavity like pipes out of a wall. There was the largest diameter of the tubuli. These tubuli were in all probability filled with some subtle fluid which was a medium for the transmission of sensation throughout the dentine. They were so small that the blood corpuscles could not flow through them. The nerve is encompassed with a sack, and has in conjunction a vein and artery forming a complete circulation, so that if the tooth is ever injected by hydrostatic force, it must be by this investing membrane being injected. Now this increased sensibility of the dentine was found universally to be accompanied by an exalted condition of the nerve, together with a general exaltation of the entire system toward the sensitiveness. This being the case, it seemed to him easy to account for the sensitiveness of the dentine without a circulation, strictly speaking, in the tubuli. An exalted condition of the nerve of the tooth implied an injected condition—a superior hydrostatic condition, so to speak, charging more fully than usually the whole tubular structure. This fluid must of necessity be exceedingly subtle, like galvanism, magnetism, electricity or the neuratic fluid. It was the vital principle which converted life with these gross bodies.

Best Preparation of Gold for Filling.—Dr. Rich begged the indulgence of the Convention while he corrected an error in the report of the proceedings of the Convention at its meeting last year, as given in the *Dental News Letter*. The subject of conversation being the preparation of cylinders. He was reported thus :—

“ Dr. Rich remarked that his preceptor in this country, Dr. Park, taught him to prepare his gold in cylinders, and formed them by rolling the gold over a watch-spring ; he then went on to give the method of introducing the gold, describing a plan of forming an open coil of gold, the interstices of which were filled with cylinders.”

That report is incorrect. I said that in the early part of my practice in this city, I had used gold in the form of cylinders or rolls, as they were then styled, and that they were formed by rolling a ribbon of folded gold over a five-sided watchmaker's brooch ; that the gold so rolled was placed in the cavity endwise, so that it projected some distance out of it, and each roll was packed solid against the wall of the cavity before the next one was introduced. This I stated I had been taught by one of my preceptors, Dr. Park, who filled teeth exclusively by that method, but that I, after using gold in this form for

several years, had abandoned it, as being an unsatisfactory method to me. I also stated, that while I was using gold in this form, I had originated a method of filling, in cases where the cavity had but two or three walls, which method was, to fold a ribbon of gold of such thickness that it would be quite stiff, and of such width that it would project out of the cavity when introduced edgewise. This ribbon was then formed into an open or loose coil, resembling in form, the main-spring of a watch, as it comes from the manufacturer. It was then introduced into the cavity edgewise, and opened or unwound until it touched every part of the walls; the interstices were then made as regular as possible, and filled with rolls, made as before described, the coil serving as a frame to keep the rolls in place while they were being packed.*

Dr. Gunning, of New York, suggested that it would be better to take up the subject in the morning.

The chair thought it a pity to lose the time, and Dr. Townsend, also, hoped the new subject would commence.

It was suggested that each member in order would speak, but as several declined,

Dr. Beale, of Philadelphia, said he hoped that the members who were now prepared would be permitted to go on, and let those who were unwilling to speak, wait till to-morrow, when they would be better prepared.

Dr. Dwinelle said that gold foil had accomplished more for dentistry than any other auxiliary. But all things considered, he was now convinced that the best preparation was pure gold, in a crystalline condition, and he founded his declaration on some little experience. While in Europe a few years ago, he had tried several preparations of sponge gold; but that was in an amorphous or unorganized state, and impracticable for filling, while this crystalline gold was highly organized. Soon after returning to this country, he fell in with Dr. Watts, of Utica, who was pursuing a course of experiments in producing the article that he had now perfected, and was all that any one could desire. He (Dr. D.) had acted in concert with Dr. Watts, who had

* This *public* correction, at this late date, comes with rather a bad grace, and so will think our readers, when the circumstances attending it are made known. Several weeks prior to the publication of the proceedings of the meeting held in 1855, we sent to Dr. R., our report of his remarks, giving him some *six weeks' time* to make corrections, if such were deemed necessary, but *we never received a word in reply, nor was our report even sent back to us*, which left us dependent, in a great measure, upon our memory, for what he did say. Under these circumstances, then, the correction comes too late, and had these facts been mentioned when the above public correction was made, we would have been relieved from the unpleasant duty of making this explanation.—*Ed. Dental News Letter.*

spent thousands of dollars in experiments, supported by his devotion to the interests of the profession, and his honest conviction of the superiority of the article. It was superior to foil in some instances, because it was a more plastic article, more capable of being modeled and built up into desired forms. It could be worked with great facility, and made absolutely solid. This was no mere theory, for he had demonstrated it. He had made fillings of crystalline gold, and after they had been worn in the mouth eighteen months, he had taken them out, sent the gold to an analytical chemist to ascertain their specific gravity, and found it equal to that of molten gold. None of his crystalline fillings had disintegrated or absorbed the fluids of the mouth; they were as good and as solid as the day they were first put in, and he expected them to stand fifty years hence, if the patient should live so long. He claimed to do with this article all, and more than could be done with foil.

Dr. Townsend, of Philadelphia, said he had worked with foil for the last twenty-five years, he believed, like Dr. Dwinelle. He believed a great many operations could be as well performed with gold foil as with crystalline gold. His friend said that a tooth could be built up into almost any desired shape with crystal gold; so it could with gold foil. The Vice-President (Dr. Neall) had, at this moment, two fillings in his inferior molar teeth, which he (Dr. T.) inserted ten or eleven years ago, built up so as to antagonize with his upper ones. He built up the gold, one piece on top of another, welding it on until it was higher than he wanted it. One of these teeth had been in constant use for mastication ever since, and there they both were standing up like two cones; and this was no remarkable case. A year and a half ago he had, with gold foil, built up the crowns of two teeth with no wall around them, and they had been used for mastication ever since.

And now for his experience in the use of crystal gold. Three years ago he was induced to try it as something with which he could do unheard of things. He experimented several days on it with his fingers, to get at the method of manipulating. In the first difficult case he had after that, he used the article, and was perfectly delighted with his success. He went on using it several months, when his patients began to come back. He noted all their cases in a book, and he found the edges of the filling breaking away and disintegration going on. Sometimes the gold had entirely disappeared, and in others he had to take it out. And to make the story short, the two ounces that he had used, to his best knowledge and belief, was all taken out; at least he

hoped so, for he felt it his duty, as an honest man, to refill them with gold foil.

After that, a better article, so called, was offered, and he made some experiments with that with a great deal of care, thinking that the defect in his previous work was owing to his bad manipulation. He spent two hours and a half, where he usually spent one on a foil filling. Some of these, so far as he could judge, seemed to have been successful, but his past failures made him afraid of them, and so he took them out. Some were perfect on the outside, but he found caries going on beneath the plug at the margin of the gum. From this want of success he abandoned crystal gold.

Again, on coming to New York, one of his friends who was an ardent admirer of crystal gold, wanted to show him his method of using it. That gentleman accordingly visited him at Philadelphia, bringing with him a newer article, and they spent one whole morning together packing the gold into a tooth which was held in their fingers. His friend pronounced it a perfectly solid filling, equal to molten gold. The next day he took his plugging forceps, and with very little pressure, pierced it nearly to the bottom of the cavity, and on examining it with the magnifying glass, he found a break around the margin just underneath the crust. Here was a filling put in under the best of circumstances, and packed in with all the force their arms could exert, and it was not solid. After that; he never had the confidence to try the article.

Dr. J. B. Rich said, that as he was the person who packed the filling referred to by Dr. Townsend, it was proper that he should reply at this time to the statements just made, as the case was unfairly stated. In the first place, the filling was not put in the cavity under favorable circumstances; and instead of a whole morning, there was not more than an hour and a half spent upon it, including the talking and explanations, although it was a large cavity in the antagonizing surface of a molar. Dr. Townsend, with his fingers only, held the tooth upright upon the arm of his operating chair, so that it was impossible to prevent its having more or less motion. He (Dr. R.) inserted the filling while the tooth was thus held, with instruments that were imperfect, they being mere pieces of wire without handles, which he had taken there to show the points he used, and his mode of packing this kind of gold, but they were not at all suitable to pack the gold hard; they could not be held firm enough in the hand to exert any force with them. And he recollected distinctly stating to Dr. Townsend that that experiment was not intended as an illustration of the degree of density that

could be attained, as the tooth could not be held steadily enough for that purpose. As relates to the Dr. piercing the filling with the plugging forceps, that fact does not amount to anything, as there was no attempt made to render it a dense one, the principal object being to show the adhesiveness of this form of gold. The crust that Dr. Townsend speaks of, as having pierced through, was produced by burnishing the surface, not by packing. He had stated the circumstance exactly as it occurred, and he would leave it to the judgment of even the most prejudiced, to decide if this was a fair experiment. He would insist, moreover, that it was not only unjust, but unbecoming in those who have any pretensions to scientific attainments, to pronounce crystal gold inferior to gold foil, upon the strength of the imperfect experiments they have made with it. If we question those closely who pronounce against crystal gold, we find that they have done so after a few trials, made generally with instruments of a different pattern from those they are accustomed to use, and before they have acquired any skill or practice in the manipulation in this form of gold. And this, too, after they have been told over and over again, by those who claim to have used it successfully, that from the peculiar mode of manipulation, it is necessary to follow, in packing it, a considerable amount of education and practice is absolutely necessary before any success can be obtained. No person would pretend to have learned to make good fillings with foil in as short a time as these gentlemen have spent in their experiments with crystal gold. He (Dr. R.) would aver that crystal gold could be packed in the mouth as solid as a piece of gold plate. It had been done again and again. And the margin and every part of the filling can in all cases be made as firm and solid as they can possibly be made when formed of foil, and with a less amount of pressure. And when one has become skilled in its use, there are many cases where it can be packed with much greater facility than foil. By pressure applied with an ordinary filling instrument, it had been made to enter into the very substance of the dentine, so that when portions of the bone were broken away from the filling, the gold adhered to it, and upon its being submitted to the microscope, the dentine presented an appearance similar to a piece of quartz, with particles of gold in it; the gold being actually imbedded in the tubuli of the dentine. Now, who will pretend to say, that a filling put in a cavity in the manner that that was, could be permeated by any fluid. In some of the cavities he had filled, as experiments, he had broken portions of the tooth away from the fillings, and upon examining the surface of the gold so exposed, he had found that it had received as

perfect and sharp an impression of the walls of the cavity, as could have been taken by either gutta percha or sulphur. This is more than can be claimed for foil, and shows how utterly impossible it would be, for fluids to penetrate between the filling and the wall of the cavity, when the gold is properly packed.

Many persons, in making experiments with this gold, have used instruments entirely different in shape from those they use in packing foil; this is one of the causes of their failure. The only change necessary to be made is in the points of the instruments, which, for crystal gold, requires to be dentated, so as to present a surface of sharp points. Another cause of failure, is the attempt to use this gold in difficult cases before having acquired skill in its use. Let those who wish to experiment with it confine their efforts to plain, simple cases, until they have become thoroughly acquainted with its peculiarities; then let them try it in the difficult cases. He (Dr. Rich) had used it exclusively for the last thirteen months, and his good opinion of it increased every day.

Dr. Ballard inquired of Dr. Townsend how much crystalline gold he had used, in all, in the mouth.

Dr. Townsend said about two ounces.

Dr. Ballard asked the same question of Dr. Dwinelle.

Dr. Dwinelle had used it exclusively for two years, and nearly so for three years. He could say he had used pounds of it. He had sometimes used an eighth of an ounce a day.

Dr. Townsend said he had not intended, in the remarks he made, to object to any gentleman's using the article; in fact, he would be glad to use it himself, if he could produce better results, even if it cost him more time. He was open to conviction, and success would afford him great pleasure.

Dr. Ballard asked Dr. Rich how much he had used.

Dr. Rich replied, some five or six ounces.

Dr. S. A. Main, of New York, remarked that, in 1850, he made some crystalline gold for an experiment. He failed to get it perfected, nor had he seen any, up to the present day, that was perfect. The same trouble that he found then he had found since. He had found two evils to arise from its use: first, while the outer surface of the filling with sponge gold was most beautiful, upon splitting or sawing he filling into two, the inner surface was quite different; and, second, he had never been able to pack it so as to make an even joining surface with the sharp edges of the cavity. He wished any one to tell him if he could pack a piece of crystal gold into indentations made

with a file, in hard gold ; or, if he could exhibit an instrument with which it could be packed into every corner of the cavity, as they could pack gold foil. He could make crystal gold with nitro-muriatic acid, but it was a mistake to suppose that it was pure ; if any one had succeeded in making it pure, he would say, bless the man who did it.

Dr. Dwinelle said that Dr. Mains' remarks did not apply to crystal gold, as now manufactured, but to another quite different article, formed by its being dissolved in muriatic acid and then precipitated, a process discovered by Dr. Jackson, of Boston, who experimented a number of years with it. That had been discarded as worthless, and the article now manufactured by an entirely different process contained 999 and a fraction part of pure gold out of a 1000.

Dr. Townsend remarked that the very article which he first used, and which was afterward condemned, was assayed at the mint in Philadelphia, and found to contain $999\frac{8}{10}$ parts of pure gold out of 1000.

Dr. Dwinelle said it was not condemned for its impurity, but on account of the imperfect manner in which it was manufactured.

Dr. Allport said he had received a letter from Dr. Watts some days ago, in which he authorized him to offer \$100 to any dentist who would take his present crystal gold, and put it through a chemical test, and detect the least trace of muriatic acid in it.

Dr. Ballard had seen the article made from gold coin, and he could assure the Convention that no mercury or other metal was used in its manufacture, which at present was kept a secret. He only wished he could state more facts concerning it.

Dr. Dwinelle wished to dispose of the muriatic acid, Dr. Ballard having disposed of the mercury. Before the article was completed for the market, it was placed in long cylinders of glass, where it was washed with distilled water until the severest chemical tests indicated that there was not a particle of acid in gallons of the water ; when, to make assurances doubly sure, a stream of water was turned on, and allowed to pass through it for twenty-four hours.

On motion, the Convention then adjourned till 9 o'clock to-morrow.

EVENING'S ENTERTAINMENT.

In the evening, a splendid supper was given at the Astor House, to the members of the Convention, by the firm of Messrs. Jones, White & McCurdy, manufacturers of teeth, &c. About 350 members sat down, and Messrs. McCurdy & White each made an excellent speech, the former welcoming the members to New York, and the latter giving forcible dissertation on the union of the Science and art of Dentistry

in their æsthetical as well as their physical relations. The company did not separate till after midnight.

Mr. McCurdy's welcome speech was as follows : —

GENTLEMEN : In the name of the firm of Jones, White & McCurdy, you have been invited to this entertainment. I beg your indulgence while I say a few words of an entirely personal nature.

In the winter of 1845-6 we commenced the manufacture of dental materials in Philadelphia ; and, early in the spring of '46, we opened in this city a dental depot, in connection with the one already under way in Philadelphia.

We had the assurance from some gentlemen in the profession that we would succeed, and we determined that no effort on our part should be wanting to deserve success. How we have carried out this resolve we leave for you to say ; but, this much we will say, that whether deserved or not, we have been sustained beyond our most sanguine expectations, and we are now in the enjoyment of a larger business than at any former period.

Success in business life is not reliable evidence that such is deserved or merited ; but, we have it in our power to say, that the confidence placed in us by those with whom we have business relations, has cheered us greatly, and induces the hope that we have their approbation and best wishes for our success.

This confidence, the basis of all business enterprise, in connection with strict integrity and purity of purpose, and an inexorable determination to do right and to be right, we have labored to secure, by giving assurance that self-interest would never warp our judgment, or desire for gain induce deception in any form, or to any extent whatever. Such were the principles we laid down for our guidance, and an approving conscience, and the confidence of the profession have been our reward.

And now, gentlemen, without any further detention, as a very trifling evidence of our feelings toward you and to the profession generally, we tender you this complimentary supper.

Mr. S. S. White, of the firm of Jones, White & McCurdy, replied to the third regular toast (The union of the Science and Art of Dentistry, in their æsthetical as well as physical relations) as follows : —

GENTLEMEN : I most heartily greet you on the present occasion, and deem myself most fortunate in meeting with so many earnest workers in the cause of truth.

I congratulate you on the opportunities presented this week for a

free interchange of thought, and of acquiring better ideas of what the age and our department requires of us. Or rather, since nothing is justly required which is not due, with better ideas of what we owe to our calling; for, as Lord Bacon has truly remarked, every man owes a debt to his profession.

There is such a thing as an account current between every department of life and humanity at large; and, to carry out the figure, our special object in association is to get posted up, to see how much of that debt is unpaid, that we may double our exertions to cancel it.

A slight consideration of the past and present condition of dentistry, will afford gratifying evidence of the great advancement which has been made therein, and especially in recent times; yet, notwithstanding so much has been accomplished, much more remains to be done, and a brief reference to one of many subjects requiring attention, may not be inappropriate on this occasion.

Thus far, if we except the earliest efforts in dentistry, the attention of the profession has been chiefly directed to the construction of a useful mechanical apparatus, to supply, in some measure, the loss of the natural organs, wholly neglecting, or but slightly estimating, the beautiful or more properly æsthetical.

Though, recently, it is thought to be more scientific to preserve the natural than to construct an artificial substitute: of the value of this branch, happily denominated conservative dentistry, there can be no doubt, as the natural must always be superior to the artificial. Still, as there must always be more or less necessity for the artificial, the object should be to carry it to the highest degree of perfection possible, and, to do this, we must study it in its various relations.

It is obvious that utility, beauty and symmetry, or general adaptation, must go together, or be combined in the artificial as they are in the natural; and this truth is more fully appreciated at the present than it has been at any other time, yet I conceive not so fully in all its relations as it deserves.

This branch of the profession, which may be called æsthetic dentistry, is not limited to the mere adaptation of the artificial denture to the mouth and face, but extends its relations to the organism as a whole, and not only to the physical, but to the mental peculiarities of the individual organism, and even still further, to classes of individuals.

To render this general relation more obvious, I have merely to refer to the familiar fact, that naturalists are able, from a mere fragment of a tooth or a scale, to trace the peculiar characteristics of the particu-

lar animal to which they belonged, even though they had been long extinct. This knowledge has been acquired only by prolonged and laborious research, and the combined efforts of many minds. It, however, shows how much may be accomplished by earnest, systematic and associated effort. If, therefore, each one interested in the cause of dentistry, would more earnestly engage in observing, classifying and recording the special peculiarities of the dental apparatus, in individuals of both sexes, of all ages, habits and temperaments, and endeavor to trace their relation to the whole organism, and to man in general, very much might be added to our present knowledge. I can truly say, that in our own department, every effort will be made to attain the highest degree of perfection, as our ideal is far, very far, beyond any thing which has yet been accomplished: but I fear that I have already trespassed on both your time and patience, and will therefore conclude with the following sentiment:—

May the fraternal feelings so pleasantly manifested at the meetings of the American Dental Convention, increase until the whole profession are united in the bonds of brotherhood. (Applause.)*

THIRD DAY.—MORNING SESSION.

The Convention met at 9 o'clock.

Dr. Taft moved to close the discussion on "The best preparation of Gold for Filling Teeth," at twelve o'clock, which was carried.

Dr. Dixon, of Pottsville, remarked that the impression left on his mind by the discussion last evening, was this: That those who had been in the habit for years of using gold foil could make a better filling with it than they could with crystalline gold, while those who had used the crystalline gold to a great extent could make the best fillings with that. He objected to the shifting from one substance to another by the profession at large, in order to arrive at conclusions as to the best preparation for filling teeth. Was it not better to leave the experimenting to those who had turned their attention exclusively to some particular preparation. He must confess that, so far as the use of crystalline gold was concerned, he had a very limited experience. He preferred foil, but thought any dentist could do best by using the preparation to which he was most accustomed. He had seen gold foil fillings which could not be excelled, and instanced one

* We must not neglect to notice the present of a box of wine from the "Missouri Wine Co." to the Dental Convention, through Dr. Isaiah Forbe*, of St. Louis, and which was drank at this entertainment with many thanks to the donor, and encomiums upon its quality.—Ed.

that came under his notice, done by Dr. Townsend. It became necessary to take it out, and he found it as hard as amalgam. It was difficult to prevent fillings from becoming moist, but a good filling could be made with foil, even if it does become a little damp.

Dr. W. B. Roberts, of New York, said that there were radicals in the dental profession, as well as in politics. He had tried everything for filling, and he had found that in some cases, sponge or crystalline gold could be used where foil could not be used as well, while in other cases foil was best adapted. He practiced on the eclectic principle in this respect.

Dr. C. A. Kingsbury, of Mt. Holly, N. J., knew of only two preparations of gold for filling teeth, in the form of foil and sponge gold. The question ought more properly to read, which was the best of the two? Both preparations were good. He had been using gold in the form of foil for seventeen years. The crystal gold used at present was very different from the sponge gold first used by the profession. He had seen many cases of operations by dentists who had filled teeth with sponge gold, and he found that a large number of them had proved an entire failure. After being in the teeth a few months, he had found this sponge gold in a very porous and disintegrated state, and he had often found it necessary in these cases, for the preservation of the teeth, to remove the fillings and refill them with gold foil. Most excellent fillings could be made, however, with the crystal gold now used. He had used over an ounce of it, making some fillings that gave him satisfaction. He thought there was a disposition to ascribe too much to one article to the exclusion of the other; it was yet to be decided, he thought, which was the best of the two.

He differed from Dr. Dixon in relation to experimenting. In the language of Liebig, nature speaks to us in a peculiar language; she answers at all times the questions we put to her, and such questions are experiments. An experiment is the expression of a thought; we are near the truth when the phenomena elicited by the experiment are corresponding to it, and when the reverse is the result, we may take it for granted that the question is falsely stated and the conception founded in error. He believed thorough experimenting was the only course to arrive at truth.

Dr. Dixon said, that in speaking of experiment, he meant to refer to that flood of experiment which some seemed disposed to indulge in. He was glad to see these experiments made in a proper way, and hoped they would be continued.

Dr. T. L. Buckingham, of Philadelphia, suggested that he would

like to hear some one tell how to use crystalline gold. There were annealed gold, cylinders, pellets, ropes and ribbons, each requiring a peculiar manipulation. They had been told that sponge gold was the very best article, but no one had given them a description of the manner in which to use it. He must confess that he had failed, in most cases, in attempting to use it.

It was said that it could be welded together and made perfectly solid. What was meant by the term solid? It was applied to metals, to indicate a peculiar cohesive, crystalline structure. It was no evidence because you had the largest amount of matter in a given bulk, that the particles were cohesive. Ice occupies a larger space than water, but is much more cohesive. We know nothing about the nature of cohesive attraction except the effects produced. Certain metals in a pure state were capable of being welded without heat. Could they weld particles of gold so as to become perfectly hard and cohesive? Wet clay could be compressed so as to have more material in the same bulk than was contained in a burnt brick, and yet the clay was held together by mechanical adhesion, and the brick by cohesive attraction. This was mere theory, but it deserved attention, for in applying this sponge gold in his own practice, though the fillings appeared to be solid, they had broken down and washed away like clay. Were not the particles, therefore, held together by the same force as pressed clay? Did it not require vitrefaction or fusion to make the gold solid? The process of annealing was done by means of a high temperature; might not the heat cause a change in the arrangement of the particles by which the attraction of cohesion was increased? Even at a low temperature, gold by rolling was rendered stiff and hard; heated in the fire and it became soft again. His own opinion was that they could not weld crystalline gold by the process of filling. He had seen fillings of this material where the surface was not burnished, absorb repeatedly drops of moisture. He believed he had not been deceived in that experiment. If that was so, would not moisture penetrate the whole lump and break it up? It was possible that it might be held together by the interlocking of the crystalline particles of gold, the same as gold foil when packed into a cavity.

Dr. C. S. Weeks, of Bedford, N. Y., had used crystalline gold but little. His first attempt, three years ago, with sponge gold was a total failure. About a year since he began to use the new crystalline gold, and after several unsuccessful attempts he at last succeeded in some kinds of cavities. He found great difficulty in keeping some cavities dry, but where they were shallow and easily accessible, he

could make a better filling than with foil, while with deep cavities not easily got at, he could succeed better with foil.

Dr. Austin, of Baltimore, said that if a crystalline gold filling, when subjected to the test, was malleable and ductile, it was therefore held together by an equally powerful force with that called cohesion, and it mattered not whether it was actual cohesive attraction or not. If crystal gold could be made as compact as coin it was a new discovery. He did not regard the illustration of the burnt brick and compressed clay as hardly in point. Before going into the fire the elementary substances were in a state very different from what they were on coming out; the silica and alumina became a new chemical compound which possessed cohesive attraction. Reduce that brick to powder, and it was no longer cohesive, or capable of as much cohesion as the clay—in fact, it was not clay, it was brick dust. If a plug of crystalline gold could be rolled out into a thin plate, and drawn into wire, and having the same specific gravity, it followed that it was as solid as coin. Because metals needed annealing, it did not follow that they were not as solid as before. There was some mysterious agency in heat, but he could not see how a crystal gold plug differed essentially from molten gold, if the specific gravity was the same.

Dr. A. Merrit Assay, of Philadelphia, gave an account of some experiments made by him, corroborating the remarks of the last speaker, and showing that crystallized gold became solidified in the cavity. He had tested a filling made with sponge gold by the hammer and rollers, making it into a very thin plate. He happened to have that specimen in his pocket-book, which he exhibited to the Convention. He had used probably some six ounces of sponge gold, and had yet to see the first discoloration of a tooth. He had used it in cavities where without it he was sure he would have been obliged either to use amalgam or extract the tooth. He intended to use it more freely hereafter. No more difficulty attended the use of it than in the case of gold foil. Great care in either case was required to keep the cavity dry; a wet filling of sponge gold would in time peel off or crumble just as a wet filling of foil would do. Instead of using the sponge gold in little round pieces, he thought it should be applied in flat pieces, and packed with an instrument much finer than those made by the manufacturers. He ground his instruments off and serrated them to suit himself.

Dr. Watt, of Ohio, rose to correct the statement of Dr. Buckingham about the impossibility of welding gold except by heat. Gold was one of the welding metals without heat, as every worker in it knew.

Dr. Rich stated that not only gold, but tin and lead, were weldable when cold.

Dr. George C. White, of New York, said it was but recently that their attention had been called to crystal gold for filling. They knew, on the other hand, that foil had been used from the beginning of dentistry. They had seen what others had done in the use of foil—that fillings had been inserted in the teeth, and had preserved them for generations. On the other hand, fillings had been introduced by other persons, which it had been necessary to renew from year to year, until finally the teeth themselves were destroyed. Two points were necessary to be reached in filling the teeth: first, thoroughness of operation; and second, skilfulness of manipulation. With these two, any honest man could succeed, either with foil or crystal gold.

Dr. Clark, of New Orleans, thought that if foil was properly used, and its properties were correctly understood, it would accomplish what every honest dentist would desire to accomplish, the preservation of the teeth. He would undertake to build up a five-cent piece into the shape of a thimble by gold foil of even layers and straight, smooth aminæ, with the pressure of five pounds only, applied with a single joint, and any gentleman here could do the same. Still, he was much interested in sponge gold, thinking it might be a valuable adjunct to foil. They could do wonderful things with foil, but there seem to be properties in sponge gold not possessed by any other material. He could not say that he could do everything with foil that could be done with sponge gold. There were certain properties about the use of well-prepared crystal gold that led him to believe that there were cases which could be treated with more facility by its use than gold foil. He related an achievement of Dr. Allport, of Chicago, in restoring the exterior and cutting edge of teeth, which to him was more gratifying to look upon than the productions of a Raphael. The front incisors were separated as if a file had been passed between them a quarter of an inch thick, nearly down to the gum. These teeth had been built up and restored to their original shape, their approximate edges almost touched, and they were perfectly adapted to mastication. They had been used nineteen months. He understood that Dr. Allport used foil in connection with crystalline gold in the same cavities. He intended when he went home to try the article.

Dr. Allport, having been solicited to state how he proceeded to fill teeth in such cases as these, said that he generally used crystal gold entirely; yet in many difficult cases, for instance, in building up a tooth where two sides were standing, he used more cylinder than crys-

tal gold. He conceived that foil could not be used in particular cases as successfully as crystal. Miracles almost had been performed with gold foil. He had seen fillings made by Dr. Blakesly, of Utica, thirty-five years ago, as perfect now as then, so far as the preservation of the teeth was concerned. One great desideratum in all operations was the saving of time; in this respect he did not regard crystals as advantageous as foil. In many cases he could save one-third or one-half the time with foil. He used also pellets for cases where they seemed better adapted. In this respect every one must use his own judgment; the great thing in filling teeth was the exercise of good sterling common sense. It required more time to learn to use crystal gold, in his judgment, than foil. It required months of hard labor to learn to fill a tooth with gold foil properly, and it required more to learn to do it with crystal gold. But when the art of using it was once acquired, more could be accomplished with it than with foil.

It was said that crystal gold fillings would break down, and that the bottom of the cavities would become soft. Last January he had filled a superior canine tooth with crystal gold; the whole of the bone of the tooth was gone, there being nothing left but the enamel, and that so thin, that when excavating the cavity, the instrument could be seen through it. This filling was worn until April, when the crown was broken off, by biting upon something hard, and came away in pieces, leaving some fragments of the tooth remaining. He saw that tooth two or three days ago, when he filed the edges where the filling came in contact with the enamel, and polished them. There that plug remained to-day, perfect for all the purposes of mastication. He cited this to show that crystal gold would not crumble; if it even did, it was owing not so much to the gold as to the manner of using it. And here he would remark, that much of Dr. Watts' gold made previous to the last year was bad, and even now, he regretted to say, much of it was not what could be desired; though it was said to be all alike, there was a difference from some cause or other. The difference was in the working properties, some would adhere almost instantly, while other portions would not.

Dr. Seabury used more foil than crystalline gold, but in certain cases he knew he could accomplish what he could not with foil. Dr. Allport expressed his experience.

Dr. Arthur, of Philadelphia, had in various times and places borne testimony to sponge gold, and had not yet ever any reason to change his opinion. Any failures in his operations he could attribute to some defect of manipulation, or some other circumstance which made it

exceedingly difficult to perform a good operation. Though some of the fillings were, after a lapse of time, not perfectly satisfactory in appearance, yet even then, there was no discoloration below the surface, and no diminution of the density of the filling.

But he no longer used sponge gold ; its use had led him to the discovery of an entirely different method of operating from what he had previously pursued, and he had since used gold foil in an entirely different manner. He had been told by a number of gentlemen that this was no new thing, that they had been in the habit of depending upon the adhesive quality of gold foil for years. Such had not been the case with him and many others that he knew. A great many manufacturers of gold foil had been led to make an effort to avoid the objection of the want of an adhesive quality, which prevented making a good operation, when used in the ordinary way. But he was assured by gentlemen who had worked in gold foil, that it was only necessary to produce a perfectly pure article of gold, to possess, without annealing, this strong adhesive quality, so that it could be welded together in a solid mass like sponge gold. If, therefore, gold foil could be made to adhere in the same manner as sponge gold, why could it not be used in the same manner and with the same results ? Every manufacturer, he had been told, could make it with this adhesive quality, and it could be used precisely as sponge gold, with the exception that the instrument should be somewhat sharply serrated and somewhat more hardened. It was well known that gold foil, no matter how adhesive in the beginning, in a very short time, if exposed to the atmosphere, would lose this adhesive property. But this change, which was confined entirely to the surface, could be entirely removed, and the gold restored to its original condition by subjecting it to a very moderate heat—something short of a red heat—ordinarily called annealing. It was only necessary to place it upon a plate and hold it over a spirit-lamp until the plate becomes hot. In an article published by a prominent writer on electric metallurgy, it was stated that any metal held in a current of air, becomes covered with a film of air, and that it is impossible to get a galvanic deposit upon that surface until it is exposed to heat. It could not be a film of moisture, because a sheet of paper could be passed into water and removed perfectly dry. He had endeavored to call the attention of the profession to this method of using gold foil, and a number about Philadelphia were now using it to the exclusion of every other, and said that no inducement could bring them back to any other material. Dr. A. referred to an operation performed by Dr. Colwell, where foil was used in an upper molar tooth,

with nothing remaining but the interior surface, and a small portion of the outer wall, the most beautiful operation he ever saw, which could not be surpassed by the use of crystal gold.

Dr. Miller, of Massachusetts, said that he had some experience in the use of crystal gold, and he regarded it as a very valuable auxiliary to the profession. He had no doubt that this form of gold did possess valuable qualities, for upon that subject, they had been enlightened with the discoveries of men of experience and learning. He had used sponge gold and cylinders in combination, and they worked well together under certain circumstances. He was an eclectic himself, and used the best material at his command adapted to suit the particular case in hand. When a new thing was introduced into the profession, he investigated its merits, and adopted whatever he found to be valuable about it. He knew of no other way to perfect success. Life was made up of experiments. If objection was made to experimenting, it would cut off all improvement. His object in the practice of his profession was, to make a thorough examination of all new discoveries in the line of his art, and adopt whatever was practical and valuable.

Dr. Searle, of Springfield, mentioned a case of Dr. Arthur's that came under his notice, where a superior bicuspid with only the outer half of the crown remaining, was built up so that it articulated perfectly with the lower one.

In regard to cylinders, he had used them for twelve years. Dr. Clark had said at Philadelphia, that he was the original discoverer, and he had no doubt he was *an* original discoverer.

Dr. Clark, of New Orleans, said he had borrowed the idea from Dr. F. H. Badger, supposing that he used them entirely. Dr. B. would not state how he did it, but he (Dr. C.) went to work to find out, and as he thought discovered it. He shortly afterwards found that Dr. Badger repudiated the idea entirely that teeth could be filled with cylinders alone, saying that he only used them in the centre of the cavity. He did not claim any original discovery, and never had. What he had learned, he gave freely to the profession, as it was every man's duty to do.

Dr. Searle did not himself claim any originality; the idea came to him in 1840, through a student of Dr. Keep, of Boston.

Dr. Hessel, of New York, had not yet seen any better work done with crystal gold than could be done by the same operators with foil. He was one of the earliest to experiment in the use of sponge gold. He manufactured it himself in the most pure manner, by means of an

electro-galvanic battery; but it was expensive and therefore impracticable. Sponge gold in a pure state was essentially the same as gold foil, and subject to the same conditions. Though it would not change when tested by strong acids, yet in some mouths it would turn black, showing that the fluids of the mouth were a powerful solvent. Gold foil, if rightly and skillfully used, would stand all the tests required.

Dr. McKellops, of St. Louis, had been very unfortunate at first in the use of crystal gold, whether from imperfect manipulation or because the article obtained was imperfect, he could not say. He found that the plugs would change after a lapse of time. The article first used, however, was condemned by Mr. Nichols, of the firm of A. J. Watts & Co., who furnished him with a better article, which, so far as he had used it, he found excellent. For large, saucer-shaped cavities, with a small margin to hold in the fillings, he had found it very advantageous. It should not be condemned after three or four trials. He had used some five or six ounces of the superior article, and he believed that, by the next meeting of this Convention, they would all be satisfied with it. He was very much pleased, however, with Dr. Arthur's method, and was going to Philadelphia to learn it.

Dr. Gunning, of New York, said that according to the general experience of gentlemen who had used crystal gold, it required a great amount of pressure to make it solid. The density of the filling was a matter of great importance, and it seemed that more labor and time were required upon crystal gold than upon foil. That being the case, though a strong patient of forty years of age might well bear the great amount of pressure requisite with impunity, it would be frightful, perhaps, to a young, delicate female. Time, to a person suffering pain, is a matter of some consideration. There were certain fillings which, on account of their not being subject to wear, did not require so great density as others; would it be proper, in such cases, under an excited condition of the nervous sensibility, to put in a larger quantity of crystal gold, subjecting the patient to great suffering, and running the risk, in some cases, perhaps, of ruining the tooth in the socket, when foil could be inserted in less time, and with less pressure and pain. The object of the dentist should be, not to see how dense a filling he could make in all cases, but to make a filling which would, in all probability, out-last the tooth in the socket. He contended that theoretical nicety was not their aim, but to make fillings best adapted to the particular cases. He would not concede that crystal gold was the best article in cases which would not admit of great pressure; and in

gold foil, he insisted that they had an article which they could control, and with it they could, in most cases, fill cavities in such a manner as to perfectly exclude moisture, and save the teeth. The foil manufactured was not all equally adhesive, but they could use the more adhesive foil for cavities where the greatest care and nicety was required.

Dr. G. not having completed his remarks, it was moved that the speaker be allowed ten minutes longer.

Dr. Ballard moved, as an amendment, that the discussion continue for the remainder of the morning session.

Dr. Clark, of Louisiana, opposed the motion, as he wished some time to be devoted to the exhibition of improvements in instruments.

Dr. Taft moved an amendment to the amendment, by continuing the discussion till one o'clock.

Dr. Searle said there were complaints that the old hackneyed subjects were kept before the Convention, and day after to-morrow would be Sunday.

Dr. Rich moved the previous question, which was carried.

The question being put on the amendments severally, and on the original motion, they were all rejected.

Eight minutes being left of the time allotted to this discussion,

Dr. Flagg, of Philadelphia, obtained the floor, and remarked that, as regards the materials for filling, they knew infinitely more of foil than any other preparation. Work done by such men as Hudson and many other deceased brethren of the profession, had stood forty, fifty and sixty years, and fillings made twenty-five years ago could not be told from work done twenty-four hours ago.

As to the method of using foil, it should be so used as to be the most thoroughly condensed, with the least amount of labor. He had been pleased with the remarks of Dr. Arthur.

Dr. Taft moved that this subject be resumed at four o'clock this afternoon. Lost.

The Fees Question.—Dr. Taylor, from the Special Committee to whom was referred the paper of Dr. Townsend on "Professional Fees, reported that they regarded the subject as one of great importance to the profession, and the views there expressed, as embodying principles which alone can lead to professional excellence; and, while we would thus commend the whole, we would especially draw the attention of this Convention to that part which treats upon professional counsel and advice. The

committee would not pretend to even suggest the amount of compensation which should be charged for any given operation; yet, we cannot but recommend that this Convention do express their decided disapprobation to all that course of conduct which so cheapens dental operations, that the good of the patient must be the sacrifice. We entirely disapprove the idea that an intelligent people will not appreciate and pay for the most perfect operations. We offer, therefore, the following resolutions:—

Resolved, That it is the duty of every member of the profession to so charge for his services, that he shall be well paid for all the time and the best skill he can expend on an operation, and which shall be an inducement for further excellence.

Resolved, That the best interests of dental science demand that a fair and liberal fee shall be charged for professional counsel and advice.

Resolved, That our profession, having for its basis true knowledge and skill, we cannot but regard that knowledge which may prevent disease as of equal, yea, more value to our patients than that which may arrest or cure.

The report was adopted unanimously.

Dr. Rich moved that a committee of three be appointed to revise and prepare the report of the proceedings for publication, and to have the revised report and Dr. Townsend's paper published entire, in all the dental journals. Adopted. The chair appointed Drs. Rich, Maguire and Dwinelle as such committee.

Dr. Van Patten, of Washington, D. C., moved that at five o'clock this evening, the Convention proceed to consider the time and place of the next meeting. Carried.

A notice was then read, inviting the dentists from abroad to an entertainment, to be given by the dentists of New York and Brooklyn, at Dodworth's rooms, this evening. The members to meet at Hope Chapel, at eight o'clock, P. M.

Dr. Clark, of Louisiana, moved that one hour be now devoted to the exhibition of Dental Improvements.

Dr. W. B. Roberts, of New York, exhibited a set of teeth made with continuous gum, mounted on platinum.

Dr. Loomis, of Cambridge, Mass., presented a specimen of artificial teeth, for which he claimed superiority, dispensing with a metallic plate, and substituting a mineral base, the whole forming a solid piece.

Dr. Wheat, of New Haven, produced a specimen of teeth inserted in a hard rubber compound. The hard rubber, it was asserted, was per-

fectly free from any liability to absorption, and that it was impossible to break the teeth so inserted, especially the grinders.

Dr. Mallett, of New Haven, presented another specimen, made in a similar way, which he and his partner had, he believed, perfected. There was nothing but mineral block teeth and hard rubber used—no metal. He proceeded to describe the method of preparation.

From all that could be gathered by the reporter, it is believed that there is a patent which bars the free use of each of the above improvements; in the two latter cases, however, it is only the use of Good-year's Vulcanizing Patent that stands in the way.

Dr. Franklin, of Newark, exhibited a fluid lamp, adjusted on a balance, with an inverted syphon, running from the cup to the wick. It was so adjusted that, as the fluid became exhausted, the part containing the wick gradually lowered, causing a uniform flow of alcohol. It had also the advantage, from the arrangement of the syphon, of being perfectly safe from explosion. When the lamp is not in use, and the cap is put on the wick, then, the wick part being the heaviest, it was kept in a horizontal position by a spring underneath.

Dr. Mallett exhibited a plate punch, so arranged that two holes could be punched at once, corresponding with the pins for the backs in artificial teeth, one punch being movable. It was used for punching two holes in the plates, suited to the pins in the artificial teeth.

Dr. Harris, of Baltimore, exhibited an instrument, invented by Dr. Putnam, for producing local anæsthesia, very useful for extracting teeth without pain.

Dr. Putnam stated that the agent used was ice and salt, and the instrument was so contrived that the application could be made to the smallest portion of any external part of the body. The gums were frozen by the application, and consequently the teeth were extracted without pain. Some gentlemen raised an objection to this application on account of its causing sloughing sores in the gums.

[The reporter here feels it his duty to state that the report which appeared in the *Express*, concerning this invention, in which it is stated that the Convention adjourned to Dr. Putnam's house to witness the operation, is incorrect, and the fact of the report appearing under the head of "Afternoon Session," when the explanation was made in the morning, leads to a suspicion that the reporter had some other purpose in view than to give a true and fair account of the matter, and the subsequent use made of that report confirms the suspicion.]

Dr. Taft, of Ohio, exhibited a blow-pipe, for throwing a warm jet of air into cavities, for the purpose of drying them. It consisted in

india-rubber bag, with a metal tube attached, which might be filled with a heated substance that would retain heat well, the air passing through it by pressing on the bag.

There was also exhibited an instrument to enable dentists to get a more perfect articulation of teeth.

The Convention took a recess till 4 o'clock.

AFTERNOON SESSION.

A motion was made and carried that the Convention resume the consideration of the subject of the best preparation of gold for filling teeth.

Dr. McQuillen said that his experience had not been a successful one in the use of sponge gold. But, gentlemen would say that his experience had been so limited that he could not arrive at correct conclusions in regard to this matter. He had not arrived at the conclusions he had stated, so much from his own experience as from the failures of eminent operators. Therefore, he stood forward as a witness in favor of the objections urged against sponge gold, that its use produced discoloration and disintegration of the teeth.

He had tried the plan of annealing, explained by Dr. Arthur, and found that he could not introduce as much gold into a given cavity, as with the ordinary gold foil that he received from Abby. He believed the annealed gold hardened under the instrument so rapidly as to choke up. There was a point where they must cease to use the instrument when operating with ordinary gold foil, as there was a point where the painter must lay aside his pencil; otherwise they might get such a temper in the gold that the next gold put in would not adhere. He had reason to infer from his experience in the use of annealed gold, that the specific gravity of a filling was not equal to that of one made with the ordinary foil, judging from the quantity used in the cavity.

Dr. Ballard said that he could speak with some confidence upon this subject, gained by an experience of some years. He had used crystalline gold for three years with great success. He had the pleasure of seeing the first operation that was ever performed with crystalline gold, and it was perfectly successful. The result of his experience could be summed up in a very few words. There was no question that a vast amount of improperly prepared gold had been in the market, imperfectly purified and imperfect in its microscopic structure. He wished only to speak of perfectly made gold, which contained all the requisites that were desirable for a successful

operation. Many failures, undoubtedly, had occurred with the very best gold, but his own experience taught him that these failures had been the result of imperfect manipulation. He did not know a man anywhere who did not make a failure sometimes. In a majority of cases occurring in his practice of three years, he had used crystalline gold with success, but there were cases in which it would not answer. He wished to state the following reasons in favor of its use—its exceedingly delicate structure, which enabled the dentist to place it in positions so exposed, that nothing else could be retained there, its perfect purity, and its density.

In regard to porosity of fillings, it was perfectly evident that a perfectly solid filling could not become porous without expanding and disrupting the plug, or splitting the tooth. A porous filling, therefore, must have been left so in the beginning; gold, once deprived of its porosity, could not become porous again. The experiment related yesterday, by Dr. Dwinelle, ought to convince any one that a filling of crystal gold could be made perfectly solid.

Dr. Taft considered the method adopted by Dr. Arthur, as a very great advance in the use of gold, and he intended to try it. Leaving that out of view, he preferred, in most cases, crystal gold to gold foil. There was a confusion of terms in speaking of sponge gold, many applying it to all the preparations that had been made and called by that name, perceiving no difference between the varieties that had been produced. There were three forms in use for filling. Sponge gold he considered to be simply granulated gold obtained from precipitation; by various methods of precipitation they could get an article with which they could fill deep cavities. Then there was structural or fibrous gold. Then again there was another form in which its crystals were larger and more definitely formed than in the two previously mentioned. In that variety which had no structural character, but was simply gold in a state of minute division, they had to depend entirely upon its property of cohesion in introducing it into a cavity. This form of sponge gold was not reliable, although occasionally tolerable fillings might be made with it. In the structural or fibrous gold—which might be denominated crystalline—besides the adhesiveness, it was retained in the cavity by the fibres folding upon one another. Again, in gold formed of definite crystals, they not only had the cohesion property, but the interlacing of the angles of the crystals to retain the filling in a solid state. In the use of foil well annealed, there was a cohesion, doubtless, sufficient to retain the particles together; but in the crystalline gold there was

besides cohesion, this interlacing of the particles which they did not have in foil. No doubt with sufficiently strong walls they could build up foil into a pyramid as described by Dr. Townsend, but he thought it required much more skill with foil than with crystal gold; and he conceived that there were many cases where crystalline gold could be used where foil could not, as in the case described by Dr. Clark, where one-third of the approximate edges of the incisors are broken away.

The President (Dr. Harris) said that the preservation of the natural teeth was of more importance than the replacing of those organs by artificial substitutes. He rose not so much to give his own experience in the use of crystalline gold, as the results he had seen from its use by other operators. He had been in the habit of using crystal gold for three or four years. During the first two years of his practice in using it, the results were not so satisfactory as he could have wished, but more recently they had proved so, although he was not yet prepared to lay aside the use of foil. He used three ounces of foil to one of crystalline gold. When he had heard doubts expressed by several members of this Convention, with regard to the practicability of making filling with crystalline gold of as much value and permanency as those made with foil, he felt it due to the manufacturers of crystalline gold to say, that he had seen fillings of this material that had been used in the mouth upward of two years, which were in a most perfect state of preservation, equal, and in some cases, when all the circumstances connected with the cases were considered, superior to any fillings with foil.

A case occurred to him at this moment, of a young lady who formerly resided in this city, who recently came into his office to have her teeth examined. Many of her teeth were made up almost apparently of gold, several crowns having been destroyed. One of these crowns in particular had been built up with crystalline gold, and although it had been there two years, it was as perfect as any filling could possibly be. There were thirty fillings or more in all, made by Dr. Ballard, of crystalline gold, two years ago. An upper molar, that had been decayed away, so that, if he was not mistaken, the walls were entirely gone, with the exception of a small portion which came down below the margin of the gum, was built up and answered all the purposes of a natural tooth. He could name other operators, Dr. Dwinelle particularly, who had realized his fullest expectations with regard to this article. He was fully satisfied that there were cases in which this form of gold could be used more advantageously

than foil ; but, on the other hand, he might say the same in favor of foil. It would be difficult for him to say which he regarded as the most valuable, though if he could have but one he would hold on to the foil, having used it so long that he had become, in that respect, something of an "old fogy."

Dr. Rich said, the difficulty of procuring foil that was sufficiently adhesive, even after he had annealed it, had induced him to try the merits of crystal gold. The experiments he had made with it, had demonstrated beyond a doubt, that its particles would adhere, it could be made solid, and when solid it was impermeable.

Among the experiments made to ascertain these facts, were the following : Portions of this gold were packed in the cavities of teeth with ordinary instruments that he used every day in his practice. One of the fillings so formed, was drawn out into wire, another was rolled into plate, and a third was hammered into plate on the anvil. Another portion that formed a small disc, about an eighth of an inch thick, was secured on the end of the tube of an air pump ; a drop of water was then placed upon the upper surface of the disc, and the tube exhausted with the full force of the pump, (which was a powerful one,) the water remained upon the surface. The disc was then ground down to about one-half its original thickness, and the experiment repeated with the same result. The objection to this gold that it requires more time to consolidate it than is necessary for foil, will not be sustained when it becomes better known. When he first used it, a filling of crystal gold required double the time that he would have spent on one of foil. Now he packed and finished it with as great facility as he did foil, and found it more easy to prepare, of convenient sizes, for introducing into the cavity. In difficult cases, as, for instance, where the filling has to be built up independent of the support of the walls of the cavity, crystal gold can be used with much greater facility than foil. This is a very important advantage. The improved crystal gold, as manufactured now, by A. J. Watts & Co., did not of itself produce discoloration ; it was *pure* gold without the least trace of any other substance, and therefore it could not discolor the teeth.

Several professional friends had told him that they had cases in their practice, where they had used crystal gold, and it had produced discoloration ; as he (Dr. R.) doubted that the gold had been the cause of that effect, he had requested them, for their mutual satisfaction, to allow him to see the fillings removed, and to examine the cases critically. In several instances they had done so ; the fillings

were removed, and the gold and the cavities examined, and in every case it was clearly evident that the fault was not in the gold, but in the manipulation, either in preparing the cavity or in packing the gold, and in every case, it was easy to decide to which of these two causes the failure was to be attributed.

The statement is often made, that the surface part of a crystal gold filling becomes quite solid and hard, while the rest of it remains soft and porous. When this occurs, it is the fault of the manipulation; if one part of the filling could be made solid, the whole could. The amount of pressure that made the surface dense would have had the same effect upon any other part of the filling, if it had been applied there. The proper method was, to pack the filling solid from the bottom of the cavity, and introduce the gold in small portions, each of which must be made as solid as may be desired, before the portion which is to be packed on the top of it is introduced. One of the most valuable properties of crystal gold is, that it can be made of any given degree of density of which gold is susceptible, with much less pressure than would be necessary to produce the same degree of density in foil. In finishing the surface of the gold, when the cavity is filled, this peculiarity must be borne in mind, and in consolidating and finishing the gold at the margin, great care is necessary to avoid working it too much at that point, for if as much labor was spent upon it, it would be necessary to make the margin of a filling of foil as solid and as hard as it ought to be; the margin of the crystal gold filling would become brittle, and would easily break and crumble up. The same effect would be produced with foil; when it reached the same degree of density, that would also become brittle.

Place of Next Meeting.—The Convention then proceeded to appoint the place for the next meeting.

Washington, Boston, Niagara Falls, Saratoga, White Sulphur Springs, (Va.,) Baltimore, Cincinnati and St. Louis, having been severally proposed, the Convention decided, by a division of 56 to 40, that the next meeting shall be held in Boston.

On motion, it was agreed that when the Convention adjourn they adjourn to meet at Boston, on the first Tuesday in August, 1857.

Local Societies.—Dr. Blandy, of Baltimore, offered the following resolution, which was adopted:—

Resolved, That this Convention recommend the formation of local or State societies, and that each association thus formed, be requested to send one or more delegates to each meeting of this Convention, thus making our annual convocation emphatically the great central Congress of the Dental profession.

Credit for New Improvements.—Dr. Taylor moved the following resolution, which was adopted :—

Resolved, That in the opinion of this body, the credit due for new discoveries or useful modes of operating, belongs more to those who have given those improvements to the profession, than to those who pretend to have discovered the same at a previous period.

The following resolution was offered by Dr. Buckingham, and adopted :

Resolved, That the Corresponding Secretary request the members of this Convention, and others, who have anything new or useful, to present them at the next meeting.

Scale of Prices.—Dr. Shaw, of Philadelphia, moved the following resolution :—

Resolved, That a committee of — be appointed to inquire into the expediency of adopting a scale of minimum prices, every practitioner to have the privilege to have a scale of prices of his own, as much higher as he may consider proper, and that it shall be considered derogatory to the character of any dentist, to go below the scale that may be adopted by the Convention ; said committee to report at the next meeting of the Convention.

The resolution was adopted, and the chair appointed as the committee, Drs. A. R. Shaw, C. W. Ballard and E. Townsend.

Committee on Publication.—The following resolution, offered by Dr. Bonsall, was adopted :—

Resolved, That the Committee on the Publication of Dr. Townsend's address, be authorized to draw on the Treasurer for the expense of publishing the twelve hundred copies ordered by the Convention.

The following resolution, offered by Dr. Rich, was adopted :

Resolved, That the Publishing Committee be authorized to draw on the Treasurer for the expense of furnishing stereotype plates of the proceedings of the Convention, and Dr. Townsend's essay, to such of the Dental Journals as shall publish them entire.

Vote of Thanks.—A unanimous vote of thanks was then passed, on motion of Dr. Austin, to the Dentists of New York, Brooklyn and Williamsburg, for the courtesies received by the members from abroad, and also, on motion of Dr. Watt, to Messrs. Jones, White & McCurdy, for their excellent entertainment on Thursday evening.

A vote of thanks was then, on motion of Dr. Coates, of Virginia, tendered to the worthy President of the Convention, for the dignity and impartial manner with which he had presided over the deliberations.

The Convention then, on motion, adjourned *sine die*.

THE COLLATION AT DODSWORTH'S.

On Friday evening, the Dentists from various portions of the United States, who have been in attendance at the Dental Convention, were invited to attend a collation given by the profession of New York and Brooklyn, at Dodsworth's Hall, near Grace Church. The tables were laid out in the usual manner of such entertainments. They were tastefully covered with fruits, ornamental dishes, etc.

The following were the Committee of Arrangements :—Drs. J. H. Foster, E. J. Dunning, J. G. Ambler, J. Allen, C. M. Ballard, N. W. Kingsley, C. C. Allen, W. H. Dwinelle, F. H. Clark, B. F. Lord, W. T. Larouche and B. C. Leffler.

Some two hundred and fifty of the Dental profession took their seats about nine o'clock, and commenced a systematic attack upon the good things before them. Dodsworth's band enlivened the entertainment by the performance of exquisite music. Previous to the commencement of the repast, Dr. Foster, Chairman of the Committee of Arrangements, addressed the guests as follows :—

Mr. President and Gentlemen of the American Dental Convention :—

A portion of the Dental profession of this and the adjacent city of Brooklyn, have invited you to this entertainment to-night, and have assigned to me the pleasant office of expressing to you, in their behalf, the satisfaction they feel in the opportunity thus afforded them, by your meeting in this city. In their name, and in their behalf, I bid you a cordial welcome.

I behold around me representatives of our profession from many different, and some distant States of the Union.

Our country has expanded to such a degree, that we cannot expect every State to be represented in a local Convention like this. But from the Green Mountains of Vermont, and the Granite Hills of New Hampshire, in the North, to the everglades of the warm and sunny South—from the far and distant West, “where the star of Empire takes its way,” and the wilderness has been made to blossom as the rose, to this rude and rock-bound Atlantic coast—throughout the whole length and breadth of this vast extent of territory—wherever art and science have extended their onward march, there may be found those who have chosen this profession as the occupation of their lives.

You have here, gentlemen, not in point of number only, but in intellectual and scientific attainment, a most honorable and respectable representation of the profession; and I most sincerely wish that many others whom we all know and delight to honor for their profes-

sional worth and usefulness, were here also to-night, that we might extend to them, also, the sincere and hearty welcome with which we greet you. (Applause.)

At the principal table were seated on each side of Dr. Foster, Dr. Harris, of Baltimore, the President of the Convention; Dr. Rich, of New York, the ex-President; Professors Townsend, Arthur, Buckingham and Flagg, of Philadelphia; Professors Taylor, Taft, and Watt, of Cincinnati; Professor Austin, of Baltimore; Dr. Neall, of Philadelphia; Dr. Clark, of New Orleans; and among the invited guests, we noticed Mr. Asahel Jones, S. S. White, and J. R. McCurdy, of the firm of Jones, White & McCurdy.

After the edibles had been abundantly discussed, Dr. Foster again addressed the company, congratulating them upon having just closed one of the most happy Conventions that it had ever been his pleasure to have known. He regretted that indisposition had prevented him, in a great measure, from being present at the deliberations which had been attended with so great unanimity of feeling, and hoped the future meetings would be attended with like results. They had learned how much had been done to advance the interests of the Dental profession, and how much remained to be discovered. Their lives were fleeting, but their art was not;

“ And though our hearts are strong and brave,
Still like muffled drums they’re beating
Funeral marches to the grave.”

Dr. Neall responded to the remarks of Dr. Foster. He said he rose because he was called on, and always liked to answer when he was called. He would have much preferred, however, that their great Goliath, of Gath, had *Harrassed* them, (laughter;) a man whom, if he had not performed his part so well, he should have considered of entirely too large make for a dentist—and he told him long ago, that a smaller man could work much better around the chair, than one so large as he.

As to that funeral march just alluded to, all he had to say was, that he presumed he expressed the sentiment of all present, when he hoped it would be a very slow one. To the other sentiments expressed by the chairman, he heartily responded, and in behalf of the members present he would say, that the welcome tendered had been accepted—they had made themselves at home already. (Applause.)

The chairman, at the opening, had said, that the star of empire westward took its way. There were here present, brethren from west of the Alleghenies, who had shown an evident determination on their part, that

that star should never set, until the last ray of science was exhausted. He was reminded of the words of a Western poet,—

“ By mountain height, in lowly vale,
By mighty lake and gentle river ;
Wherever sweeps the chainless gale,
Onward still they speed forever.”

Such, he trusted, would be the march of the dental science. (Applause.) But while their march was onward, he hoped it would be borne in mind, that the great end of their science was to do good. He was pleased with the remark made this afternoon, in favor of holding the next Convention at Boston, because they could do more good there. The highest and noblest ambition was to do good—to succor human woes. (Applause.)

THE REGULAR TOASTS.

The first regular toast was—

The President, the Constitution, and the General Government of the United States of America. (Music—Hail Columbia.)

The second regular toast was—

The American Dental Convention, organized upon the broad basis of equality and fraternity; may it prove a foundation for the erection of a superstructure, beautiful and harmonious in all its proportions, the materials of which shall ensure its perpetuity.

To this, Professor Harris, of Baltimore, responded. He remarked, that he had witnessed in this gathering of Dentists, a scene he had never expected to behold, and after referring to the rapid progress of the Dental profession, he compared dentistry thirty years ago, to a wilderness overgrown with wild forest trees; since then it had been nearly cleared, still *roots* remained to be extracted. He thought, however, from what he had seen this evening, they all understood the operation of “*filling*” well. (Laughter and applause.)

Third regular toast:—

The originator of this Association, who, residing in the city of brotherly love, has infused and incorporated that spirit into the whole body politic.

Dr. Townsend, of Philadelphia, was called upon to reply, and was greeted with warm applause. He felt proud to see so large an assembly of intelligent, well-educated gentlemen present, and to know that his individual efforts had contributed to bring this result about. One year ago, when he first spoke of the possibility of collecting the Dentists of this country, and possibly of the world, into a Convention, upon a broad democratic platform, and thus cementing a bond of union,

the thing was doubted by his best friends. It had been a pet scheme of his for years, and he could not relinquish it in spite of those discouraging words; accordingly, in the spring of 1855, he took the liberty of calling his friends together, and laying the scheme before them. In this, he had followed the custom of the Quakers, among whom he was brought up, who, when they have anything for a long time resting upon their minds, lay it before their brethren; and, if their friends are ready to receive it, well; if not, they wait till they are ready to act with them. He found his friends willing to act, and now he felt that the bond of union was secured, and that the next Convention would be even larger than this. (Applause.) So long as they kept to the fundamental principles of truth, love and charity, they would gain in numbers, and promote the great end of doing good. (Applause.)

Fourth regular toast:—

The first President of the American Dental Convention.

Dr. Rich responded as follows: Mr. President and Gentlemen. The success of the American Dental Convention has made it a great honor to have been its first president. The scheme of a National Convention of Dentists is no longer a doubtful experiment. It is a successful one. And the result is the establishment, upon a firm basis, of a useful and permanent institution, which, if we love our profession, we must all be proud of. Associated effort for the accomplishment of any purpose is one of the great engines of civilization; and the talent and general intelligence of the Dentists of this country has rendered an association like this an absolute necessity. When a number of ambitious and well-educated men, situated in different localities of a large country like this, are earnestly striving to elevate and advance the standard of their profession, they need some common ground, such as this society presents, where they can come together and contribute the result of their individual labor to the general fund of information. And the beneficial effects of associated effort, for the advancement of the cause of science, is nowhere more apparent than in the history of our profession. It was only when Dentists began to communicate freely with one another on professional subjects, and thereby elevate themselves, that our calling began to be recognized as a respectable one.

It is scarcely twenty-five years since the first efforts were made in this direction. The few liberal-minded men who started this movement, saw the necessity of united effort; and, such of them as resided in this state, formed a local Dental Society in the city of New York. A few years afterwards, the Baltimore College of Dental Surgery and the American Journal of Dental Science were established. And then, in

1840, came the grand movement in the history of our profession. A few of the distinguished Dentists of our country, I believe they did not exceed twenty-five in number, met in this city, and formed the American Society of Dental Surgeons. From that moment our profession has been steadily advancing, and now a call for a National Convention is responded to by nearly two hundred members. The pioneer journal, whose first issue was barely one hundred and fifty copies, has reached an issue of over a thousand, and there are five or six other Dental Journals, with a circulation of from one to three thousand copies each. We have three or four Dental Colleges in successful operation, who swell our ranks every year with earnest, well-educated men. (Applause.) A number of local societies have been established in different parts of the country; these organizations have stimulated and benefitted all who have been brought within their influence. Gentlemen, such is the condition of our profession in this country. We see what the Dentists themselves have done. Is the credit of the progress and elevation of this profession due to them alone? Why is it that the Dentists of other countries have not elevated themselves and their profession? And to what cause must we attribute the superior skill and intelligence of the American Dentists, when compared with those of other countries? The reason is obvious: the patrons of the European Dentists are the privileged classes, the people of rank, the rich and the few,—a very small portion of the population. There, where a small number live in luxury and plenty, at the expense of the poverty and privation of the many, the down-trodden masses have no means to pay for dental operations; they cannot procure the necessities of life, much less pay for the services of a skillful Dentist. The Dental profession is at a low standard. They have no elevating influences. No Dental periodical literature. Dental Colleges have not been attempted. Dental Societies they have never had, and, consequently, they produce no men of superior talent: and we see a comparatively young nation supplying the Old World with one of the means of refinement; for America actually furnishes Europe with Dentists. (Applause.) How different a condition of things do we find here. The high position our profession occupies is only one of the types of our beloved country. Its condition is one of the results of the working of the problem of self-government by the masses, and we flourish because we live among a highly prosperous, well-educated, moral and refined people, the masses of whom can appreciate our skill and afford the means to patronize us. None but the refined pay the necessary attention to the teeth, and in this respect and that of personal cleanliness,

the people of this country are elevated far above any people on the earth. (Great applause.) Gentlemen, how many things we have to be proud of as Dentists. In this soil, so genial to the growth of talent, our profession has advanced with giant strides. We have the only periodical literature of Dental science in the world. The only regularly organized colleges for Dental education. The only Dental Societies and the only Dental Convention that has ever been held in the world. (Applause.) One of the great advantages of this Convention is, that it has brought a large number of the members of our profession face to face. We have seen the men of whom we have heard. As a general thing, men needed but to know one another, to like one another; and, when brought together, to converse on topics of mutual interest and concern, they generally became good friends. And one of the results, of which we ought especially to be proud, is that instances have occurred, during this meeting, of gentlemen who, on account of some old rankling animosity or jealousy, have not spoken together or recognized one another for years, having come together at this Convention taken each other by the hand, and all their former ill-feeling had been swept away. (Long and loud applause.) Another of the fruits of this Convention is the New York Dental Association, which was organized on the eve of the meeting of this body. I sincerely hope there may be many such formations throughout the Union before the next meeting of this Convention. (Applause.)

Allow me, gentlemen, to express to you my warm acknowledgments for the honor of this toast; and, to thank you again, for your kind support during the time I had the honor to preside over your deliberations. (Applause.)

Fifth regular toast:—

Dental Colleges: ever keeping pace with the spirit of the age. May their motto be "Excelsior."

Professor Arthur, of Philadelphia, said he was rather surprised that he should be called upon to respond to this toast, being the youngest in the category of professors present; nevertheless, he had the honor of being the oldest graduate of any dental college. (Applause.) He well-remembered the struggles of his respected friend, Professor Harris, at the outset of this enterprise, which had led to such important results already, and which would lead to more important hereafter. He regretted to say that the opposition which was at first met was not yet entirely broken down, though it was rapidly passing away. It must be evident to every intelligent dentist that a regular systematic education was absolutely necessary for the advancement of the science; and,

so far as he was acquainted with the gentlemen connected with the Dental Colleges, they were honestly seeking that advancement. (Applause.)

Dr. A. then explained the reason of the sudden passing out of existence of the institution, with which he had been connected, and its being succeeded by another. It resulted from an attempt to bestow honors by the board of trustees of the Philadelphia College, only one of whom was practically acquainted with the dental art, upon individuals not known to the profession at large, independent of the wishes of the faculty of that college. This practice had grown up in literary colleges, established by endowments from educated men, without whose consent, or the consent of teachers employed by them, no degrees could be conferred. As they were intelligent men, they were capable of judging of literary qualifications, and therefore, it was proper enough that they should confer degrees. But it was easy to see that such a rule, when applied to a college erected for the purpose of professional instruction, must be destructive of its interests, and injurious to the profession upon which it was attempted to be practiced. The trustees of such an institution were, of course, totally unqualified to confer honors. Therefore, the gentlemen of the profession connected with that college, sacrificed its charter, and, though at first doubtful of success, they succeeded in obtaining a new one, containing a clause expressly prohibiting the conferring of honorary degrees, except by the consent of the faculty. That faculty intended to do their duty regardless of any other consideration, and if that was done, the course of the dental profession must be onward. (Applause.)

Sixth regular toast—

The Dentists of the South and South-west—a noble army of co-laborers. May they swell the tide of our progress with a ceaseless flow, like that of their own mighty Mississippi.

Dr. J. S. Clark, of New Orleans, responded.

He said that large rivers, large growth of tropical verdure, and genial skies might not produce large men to "*swell the tide*" of human progress; but they engendered large aspirations. (Laughter and applause.) True to these impulses, they might attempt large things, but they felt as in nature they possessed an artery of a Continent, so, professionally, they felt the throbbings of arterial blood, whose every pulsation was in unison with the great heart.

He would illustrate: A friend of his, being fond of oysters, called Fike, his servant, and told him to polish his chafing dish and to make

it shine like the sun. Tike took the tin and worked at it a long time, but he could not produce any thing like the lustre of the sun. Tike hated to give it up, but finally came back to his master and said: "*Massa, I make im shine like de moon, but he no shine like the sun. Massa, I think he can't be did.*" (Laughter.) So in the dim twilight of our novitiate, high impulses may lead us to think ourselves creative geniuses; that we are called upon to even out-artist nature herself. But if we are true servants of our great Master, when we find our mistake, we shall do as Tike did, keep on with our work, for Tike's work was not done. His master called him late one night, and told him to brush his boots, and to make them shine so that he could see his face in them. Tike took the boots, and by the dim light of an old candle commenced his task, but the more he brushed, the more he couldn't see his face in them. Faithfully he worked, till finally he began to see the reflection of an eye, then his mouth, and he exclaimed, "*I see um eye! I see de mouf! de face come bum-by!*" (Laughter.) But Tike did not know that a light had broken in from the east, and that the sun had risen on his toil-spent night.

We, gentlemen, have watched the sun in his rising. We saw at first the grey dawn, then a ray of light came down from Baltimore and the cities of the North, till a broadcast sunlight made us feel that ours, indeed, was the "Sunny South." (Applause.) But some of us love to come home. Some of us come on a yearly pilgrimage to the old hearthstone. We listen to the gentle footfall that rolls back on memory the tide of years, and we stand once more in boyhood's "home, sweet home." With this feeling fresh in our hearts, may we not visit this, our annual re-union, as the place where our friends and brethren dwell. (Applause.)

Seventh regular toast—

Our brothers of the great North-west.—Full of vital energy, may they be true to their motto: "The Young Americans of our profession."

Dr. Allport, of Chicago, in response, said that there was a familiar song whose chorus was, "There's a good time coming." That good time in the dental profession had come. (Applause.) It did him good to see the veterans of the profession here mingled with those who, like himself, were young, but were willing to shoulder the responsibility of elevating it to that dignity that its devotees expected it to attain. (Applause.) A good time had come, but a better time was coming, when dentistry would take its rank with the most respectable professions. What was there that was more needed than intelligent dental practitioners. The time was coming when every place that

supported a physician or a lawyer, would also support a well educated dentist. Their numbers here to-night were respectable, but nothing like what they would be, (applause,) and while they increased in numbers they should equally increase in scientific knowledge and skill. He assured them that the members from the West would return with the determination that the West should be the Young America of the profession. (Applause.)

Eighth regular toast—

Our brethren of the New England States.—“Stars in the East,” their cheering, effulgent rays, gladden us here to-night.

Ninth regular toast—

Dental Progress.—May its march be onward and upward, until its genial rays shall be reflected throughout the world.

Dr. Allen, of New York, said that he recollected being present on one occasion, when Davy Crocket being called on to address an assembly, came forward, and, after standing a moment or two in a very awkward position, said: “My good friend and fellow-citizens:—There is not a man on earth that would love to talk to you better than I, if I only knew how.” (Laughter and applause.) I feel like endorsing that sentiment this evening.

Dr. A. then spoke of the history of the progress of the dental art, remarking that more progress had been made in the last half century, than in the previous thousand years, and American genius had done more in that time, than the genius of all the rest of the world. He also made some further remarks upon the mechanical department of dentistry, to which he was more particularly devoted, urging the necessity of a thorough knowledge of the anatomical structure of the muscles of the face, in order to insure complete success in restoring the natural expression of the countenance.

Tenth regular toast—

The Ladies.—Often present at our labors, never absent from our thoughts.

Dr. Austin was called out to respond to this toast, and made some very amusing remarks, which he termed an apology for not responding, and which he modestly requested the reporter not to give. His remarks created considerable merriment.

Dr. Gunning, of New York, being called for, rose and remarked that he could appreciate the feelings of his friend from Baltimore living as he did in a city renowned for the beauty of its ladies.

Eleventh regular toast—

The Press.—Ever ready to aid in every good word and work, we invoke their especial help in this our new fraternal enterprise.

Mr. Burr, of New York, being called upon to respond, said that he considered it a work of supererogation to speak for the press, for every body knew that the press spoke for itself. Nor could any one, strictly speaking, be said to represent the press, because the press represented itself, however much it might *misrepresent* others. Speaking for himself, individually, he would say that he had a very high appreciation of the dental art, and any gentleman, possessed of the general intelligence requisite for his station as a member of the press, who failed to appreciate that art, was unfit for his position. But though, paradoxical as it might appear, he was in a certain sense a speech-maker, yet being no speaker, he would resume his seat. (Applause.)

The regular toasts being completed, the Chairman read a letter from Mr. Jones, accompanying a box of honey for the table, and remarked that having had the honey, he hoped they would in addition now have some honied words from Mr. Jones. Mr. Jones begged to be excused, when his partner was called upon.

Dr. J. R. McCurdy, in answer to this call, related an anecdote of the man that Dr. Franklin observed at a public table. While every one was busy helping himself, this man, unlike the rest of them, said nothing, whereupon the Dr. was disposed to attribute to him some very good sense, and he watched him with a good deal of care, with the expectation that when he did open his mouth, he would hear something very brilliant. By and by the dumplings came on, and the man was desirous of having some sauce upon his dumpling. The Dr. eyed him pretty closely to see if he was going to speak, when he at length exclaimed to his neighbor: "Will you hand me some of that stuff you wallow your dumplings in?" (Laughter.) So possibly he (Dr. McC.) might have got the credit of being capable of making a speech if he had not been exposed. When the committee had taken him, with his partners, by the arm, and seated them in a particular place, he felt like a lamb being led to the *slaughter*, (laughter,) while seated in his place he felt disposed to make use of the expression of the fellow who had been arrested for misdemeanor, whose counsel made him out quite innocent and reputable, so much so that he exclaimed that he never knew he was so good a fellow before. (Laughter.)

Dr. McCurdy then spoke of his fears at first for the success of this enterprise, on account of the many jealousies that existed among the members of the profession, but he confessed himself surprised and gratified at the result, and wished the movement continued success (Applause.)

The following toast having been handed to the chairman, was then read

The first President of the New York State Society of Dental Surgeons, to which

Dr. Covell responded. He said that he had frequently heard warm expressions of the great and lasting advantages derived from that institution, showing that though dead, it yet speaks. (Applause.) It did not die for want of vitality in its members, but only of its organization.

After some further remarks, in which he alluded to the press as the mighty engine by which the dental science was achieving its progress, the gentleman sat down.

This allusion to the press, called the remark from Dr. Harris, that no profession used the *press* more than the dental.

Mr. Bigelow, of the *N. Y. Express*, hoped to be excused in this connection, for giving the following sentiment :

Mr. Chairman and members of the dental profession :—When your profession next hold a meeting like this in our city, may all our distant and neighboring *Towns-send* still larger delegations to your Convention, where may the dental science be *Foster-ed* until all its *Rich-treasures* shall be discovered, and fill both patients' teeth and practitioners' pockets. (Applause.)

Dr. Dwinelle, of New York, being called out, said that the star of hope was in the ascendant, the good time had come. How many unsuccessful efforts in the last twenty years had been made to fraternize the members of this profession, but for the last two years their efforts had run parallel with their wishes. The secret of their success was the democratic principle upon which they were organized ; hitherto the efforts were made in a wrong direction, but now they harmonized with the spirit of their institutions. He hoped the designs of the excellent founder of this institution would be carried out to the letter, and that all unnecessary machinery would be avoided ; and next year he hoped to see, not only American, but European dentists represented in this Convention. (Applause.) The name of a dentist, once a reproach, now respectable, would yet become a title of honor. Then the names of Hudson and Gardette, (peace to their memory !) would shine forth in greater brilliancy ; while he hoped the names of Harris, Townsend, Arthur, Dunning, and others, would by no means be forgotten. (Applause.) If every man would be true to the estimate he put upon himself, the world would sooner or later endorse it. There was much to encourage them, surrounded by circumstances like the present.

“ Let us then be up and doing,
With a heart for any fate—
Still achieving, still pursuing,
Learn to labor and to wait.”

(Applause.)

Dr. Gunning rose to give a sentiment, “ May we never forget the Dental writers of Europe.” He regretted the lack of eloquence to do

justice to the subject, but he did not wish to see anything that would look like forgetfulness of those noble writers—Bell, Hunter, Fox, Tomes—therefore he deemed it his duty to draw attention to those names.

Dr. Harris was glad of the mention of those names, and would give as an additional sentiment, the memory of a noble pioneer, who fell a martyr to dental science—The memory of Alexander Nasmyth.

Dr. Dunning, of New York, at the invitation of the chairman, remarked that it gave him heartfelt pleasure to be present. Thus far he had been a man of action and of labor, and had never learned to make speeches. He alluded to his first connection with a Dental association, when they met in a small room. He was then full of enthusiasm, and hoped he had not entirely lost it now. He attributed the rapid growth and success of the profession, to the fact that it was not trammelled, as other professions were, by laws and edicts, that had their origin in by-gone times. Each man was putting forth all his individual efforts to do his duty, and contribute to the advancement of the cause. It was the motive, aim and aspiration, with which the Dental practitioner performed his duty, that had given to this profession its present character. (Applause.)

Dr. Townsend gave as a toast—The New York Dentists, whose generosity is only equalled by their devotion to science—May they ever remain the brightest jewels in the coronet of their State's greatness.

Dr. Ballard being called out, said that nothing but kindness of heart could have induced them to call upon him to respond, and nothing but that stood between him and the well-laid charge of presumption. Young America had been spoken of this evening, and so far as the younger members of the Dental profession were concerned, he claimed to be an humble representative. If he had any reputation in his profession, it was due to the fact, that he entered in at the straight gate, and there (pointing to Dr. Harris) sits the gentleman who made the path smooth. (Applause.) When it was proposed at Philadelphia, to hold the next Convention at New York, it was urged as a reason, that there was no local society there, no union among the Dentists, and that therefore good might grow out of it. Good has grown out of it, for there was now union among them, and a New York Dental Association. (Applause.)

Dr. Dwinelle gave as a toast—

Our excellent representatives abroad. "Though lost to sight, to memory dear."

The chairman apologized for omitting, in consequence of the great number of the regular toasts, to call out their worthy friend, Dr.

Taylor, of Cincinnati; he hoped to hear a few parting words from that gentleman.

Dr. Taylor said he had hoped to be allowed to sit in silence this evening. Unfortunately, he had to make an apology instead of a speech for the close, as he had made no sort of preparation, and even if he had, it would have done no good. He began to think that the Eastern people were "some," and next year he intended to go down to Boston, and see what the real genuine Yankees were. (Laughter.) The dental science was once spoken of as auxiliary to the medical profession; that was now reversed, and the medical profession was auxiliary to that of the dental surgeon, and having got the upper hand, he hoped they would keep it. (Applause.) He returned his sincere thanks to the Dentists of New York for this hospitable entertainment, and hoped the gentlemen of the west would have an opportunity before many years to show their hands. (Applause.)

The festivities here closed, and the members dispersed.

MEETING OF THE AMERICAN SOCIETY OF DENTAL SURGEONS.

The Sixteenth Annual Meeting of the American Society of Dental Surgeons convened according to adjournment, at the Astor House, in New York, at 10 o'clock A. M., on Tuesday, August 5th, 1856.

The following members were present, viz:—Drs. Townsend, Dunning, Taylor, Allen, J. S. Clark and Bonsall; no other members appearing, and there being no quorum, they adjourned to meet at 3½ o'clock P. M., at the same place.

AFTERNOON SESSION.

Met at 3½ o'clock P. M.—Present—Drs. Townsend, Dunning, Foster, Taylor, Clark and Bonsall; there still being no quorum, the Secretary was requested to notify all the members who could be reached in time, that a meeting would be held on Thursday morning at 9 o'clock, at Hope Chapel, No. 718 Broadway, for the purpose of deciding finally, as to the dissolution of the Society.

Adjourned to meet as above.

THURSDAY MORNING, August 7th.

Met according to adjournment, at Hope Chapel, at 9 o'clock A. M., the following members being present:—Drs. E. Townsend, E. J. Dunning, J. Parmly, R. Arthur, J. Allen, S. P. Miller, J. Taylor, R. P. Field and C. Bonsall. The Secretary reported having sent notices by mail, as requested, to some twenty members, in addition to those present on Tuesday, asking their attendance at this meeting.

The minutes of last year and Tuesday having been read, they were adopted.

When, the committee appointed last year being called upon, reported as follows:

MR. PRESIDENT AND GENTLEMEN :

Your committee, to whom was referred the subject of the propriety of dissolving the Society heretofore in existence as the *American Society of Dental Surgeons*, would respectfully report, that having given the subject that consideration which its importance demanded, they agree to offer the following resolution :

Resolved, That we deem it expedient to dissolve this association, and that it be and is hereby adjourned *sine die*.

ELISHA TOWNSEND, *chairman*.
E. J. DUNNING,
JNO. S. CLARK,
R. ARTHUR.

Which report was accepted, and on motion, Drs. Bonsall and Dunning were appointed a committee to distribute the funds of the Society according to the Constitution ; after which the report of the committee was unanimously adopted, and the Society adjourned *sine die*.

CHARLES BONSTALL, *Recording Secretary*.

For the Dental News Letter.

SENSITIVE DENTINE.*

BY J. H. M'QUILLEN.

This condition of the dentine, to which the term inflammation is applied by many, has been the subject of much speculation on the part of dental writers, and various arguments have been advanced in support of the existence of dentitis.

With due respect to the opinions of these gentlemen, it does not appear to me that they have demonstrated their position as an irrefutable one. My object, however, is not to controvert their arguments but, on the contrary, to present a chain of *negative* reasoning, that I am inclined to believe will satisfy those who have made inflammation a subject of investigation and reflection, of the impossibility of its occurring in this tissue.

If a section of dentine is placed in the field of the microscope

* Though this paper was prepared independent of the discussion at the Convention, I cannot, after looking over the proof sheets of the proceedings, as reported refrain from protesting against the gross perversion of my remarks on this subject and also through a mistake of the printer, the attributing to me observations made by another (Dr. Dwinelle, I believe.)—and lastly, what will, no doubt, surprise Dr Taft, that a part of my language should appear as if coming from him, though on this point our views are decidedly dissimilar.

innumerable capillary tubes are observed radiating from the superficies of the pulp cavity; connecting these tubuli is an intervening granular structure, the intertubular tissue. After proceeding a short distance from the pulp cavity, without any change in their relations, the tubuli eventually divide, subdivide, and anastomose with each other; this is much more marked where the enamel and cementum is in contact with the tissue, than at any other point. It is stated by the highest authority on this subject,* that the *largest* tubuli (and these are not found in the crown, but in the fang, near the apex) are but 1-10,000th of an inch in diameter.

Having thus briefly described the appearances presented in the field of the microscope, we will consider the manner in which the circulation is carried on through the tissue. In the dentine of human teeth, the presence of blood-vessels has not been satisfactorily demonstrated; and when it is remembered that the capillary attraction resident in the tubuli, added to the *vis et tergo* of the heart and arteries, should be sufficient to effect all the results that could be accomplished by their presence, it would seem a work of supererogation to have placed them there. As evidence in support of this view, I would cite the experiment of immersing one end of a minute-glass tube, held in a vertical position, in a fluid of sufficient tenuity, when, against gravitation, it will be found to ascend some distance up the tube. It is owing to this purely physical force, in connection with the influences exerted by light, and that elective or vital affinity for the nutrient fluid that characterizes all organized bodies—as evinced in the acts of nutrition and secretion—that the circulation in the vegetable economy is effected.

It may, therefore, I think, be safely concluded that the tubuli—opening as they do upon the walls of the pulp cavity—their contiguity to each other—the division, subdivision and anastomosis—the capillary attraction; and, added to these, the elective or vital affinity exerted by the tissue—affords the most ample facilities, without the intervention of vessels for the circulation of the *liquor sanguinis*, or nutrient portion of the blood. It is impossible, however, that the *red corpuscles*, which contain the *hematine or coloring matter of the blood*, and whose average diameter is 1-4,500th of an inch, can pass into the tubuli, when the diameter of the *largest* is not one-half that size. Is not this fact conclusive proof of the non-existence of vessels?

Though not demonstrated by the microscope, it can, with some degree of plausibility, be inferred from the sensibility of the tissue,

* Tomes, p. 39.

that nervous filaments from the pulp pass into the tubuli, and form a plexus under the enamel, where the tubuli anastomose with each other.

If then, as I think has been fairly demonstrated, blood-vessels are not present in dentine, how can inflammation possibly occur in it?

Without intending to enter into a detailed consideration of inflammation, I would now direct attention to the fact, that it is characterized by the presence of four phenomena: pain, redness, heat and swelling. The mere presence of any one of these, however, is not sufficient to establish its existence. As, for instance, *swelling* may be due to emphysema, or dropsical effusion, *preternatural heat*, to friction, exercise, or bringing the part in contact with a fire; *redness* may arise from exercise, or mental emotions, as in the act of blushing; and *pain* may be caused by a dislocation, as in colic.

As dentine is of so dense and unyielding a structure, as to preclude the possibility of swelling, and if there is an elevation of the temperature, it is so slight as to be inappreciable to us, redness and pain are the only phenomena that remain to be considered.

A reddened condition of the dentine does occasionally present itself; but this cannot be regarded as proving the presence of inflammation in *that* tissue. As before stated, it is only the *liquor sanguinis* or colorless portion of the blood that can pass into the tubuli; the red corpuscles being too large to enter, and unlike the capillary vessels of the conjunctiva, these tubes are incapable of distension. In the course of my practice I have never met with this reddened condition of the dentine without, at the same time, finding the *dental pulp* in a state of *acute inflammation*, resulting from mechanical violence offered to the tooth, or the improper application of escharotics to obtund the sensibility of the dentine. This redness can only be accounted for by supposing that the *red corpuscles* in the vessels of the inflamed pulp *have been ruptured*, and the *hematine* escaping unites with the *liquor sanguinis*, is carried into the tubuli.

This, then, reduces us to but one of the phenomena, *pain*; and as it has already been shown that the mere presence of only one is not sufficient to establish the existence of inflammation, it is fair to presume that the rule should hold good in this tissue as well as in others.

After a careful examination of the nature of this sensibility, and the influences that develop it, I am disposed to believe that, with some exceptions, it is due to physiological rather than pathological conditions. I will offer a case. A patient presents himself, complaining of tenderness in a tooth, which is not *persistent* in its character, and only mani-

festing itself when the tooth is subjected to variations of temperature, as the contact of cold air, cold or hot fluids. Upon attempting to remove the decay, it is found to be exquisitely sensitive, though the caries is comparatively superficial; the pain induced by the contact of the instrument, however, ceases almost immediately upon the removal of the excavator from the cavity. In the majority of cases, if the operator persist, after the first few cuts have removed the upper lamina of decay, the sensibility becomes very slight, or disappears altogether; but, in some instances, the tenderness continues during the entire excavation, and even when introducing the filling. If the dentine of a perfectly sound tooth in the mouth of such a person should be suddenly exposed by removal of the enamel, through accident or design, the same intolerance to variations of temperature or the contact of an instrument, would manifest itself at once. Now, all this only proves that the part is endowed with that vital characteristic of the animal kingdom, sensibility, and that the peculiarities of organization render some individuals more impressible than others.

If any other part of the body should be subjected to the same influences,—for instance, immersing the hand in hot or cold water and retaining it there some time, or cutting it with a knife,—a sense of pain would be induced, but no one would dream of attributing it to the existence of inflammation. That such influences will develop inflammation in the tissues capable of such condition is without question; the pain, however, that accompanies its establishment is *persistent* in its character, until either resolution is induced or the part dies; and, though external influences may *aggravate* it, they are not demanded to make it manifest. In sensibility of dentine, on the contrary, as long as these influences are not brought to bear upon the tissue, the pain remains quiescent.

The sensation perceived in the dentine is no doubt due to impressions made upon the nervous filaments, ramifying through the tubuli, and the plexus which is found directly under the enamel, offers such an extended surface of nerve substance as to render that the most sensitive point. The disappearance of the sensibility, after this part is removed, has been accounted for by supposing that the nervous current is destroyed by the section of the filaments.

I have stated before that there are some cases in which we may regard the sensibility as due to pathological conditions. Teeth, for instance, which are perfectly devoid of sensibility, when their possessor is in the enjoyment of health, become exceedingly tender when he is afflicted with disease. Under such circumstances, the blood circulating throughout the entire system is very much altered in its character-

istics, and that portion of it which passess into the tubuli may make such an impression upon the nervous filaments as to induce an exalted sensibility in the part, but it cannot be regarded as inflammation.

Aside from the fact that inflammation is accompanied by certain phenomena, it also *terminates* either in *resolution*, *suppuration*, *mortification*, et cetera. There is not satisfactory evidence that any of these have ever presented themselves as sequences, resulting from inflammation in this tissue. There was a period when caries of the teeth was regarded as a result of inflammation, but that opinion of later years has been abandoned, and the theory of chemical decomposition adopted in its place.

The treatment pursued in this condition is one little calculated to *arrest* the progress of inflammation; but, on the contrary, eminently qualified to *increase* it, when applied to a part in which it truly exists. Suppose the same course should be carried out in the treatment of inflammation of bone,—the tissue to which dentine bears the closest analogy,—first cutting out the inflamed part, and then introducing in its place a filling of gold, tin or amalgam. Would this be likely to stop the disease?

Recapitulating them as follows: I would say that the non-existence of blood vessels in the tissue; the absence of all the phenomena but one, and that requiring the action of external influences to develop it; the insufficient evidence that any of the results of inflammation have ever presented themselves; and the fact that placing a foreign body, such as gold, tin or amalgam, in contact with a tissue in a state of inflammation, would be calculated to increase rather than arrest it, is sufficient evidence, it appears to me, to prove that inflammation cannot and does not occur in this tissue.

With such facts before me, I can but regard this condition of the dentine as proving the existence of sensibility in the part, and that, owing to peculiarities of organization in some, and certain conditions of the system in others, it occasionally becomes unduly exalted.

Though not prepared to entirely ignore the use of escharotics, to obtund this sensibility, I am satisfied from an experience of nearly ten years, that in the use of one, the chloride of zinc, the remedy is almost as bad as the disease; and, in the second, arsenic, that there is very great danger, even in the most careful hands, of exciting inflammation in the pulp, and consequent reddening of the dentine; and a third, the nitrate of silver, there is every probability of inducing a permanent discoloration of the tooth. In the majority of cases, if not in all, I believe they can be dispensed with, by following the course suggested by Dr. Neall, “of applying the keen edge of a well-tempered excava-

tor to the margin of the caries, whipping out in a moment or two the major and more sensitive parts of the decay, cutting as much as possible from centre to circumference, and more towards than from you, putting the patient upon his legitimate endurance, and by a prompt and straightforward manner, securing the like from him."

For the Dental News Letter.

AMALGAM.

BY J. D. WHITE.

We referred to this substance for filling teeth in the News Letter some time since, and we did not expect at that time ever to have occasion to do so again; but, "it is somehow held to be more creditable to learn what one has not known, than to unlearn what he has erroneously believed." We were told by the author of this language that amalgam as he recommended it, or the new method of preparing it for use, rendered it free "from all the objections which had been urged against it by its opposers." We most candidly "*believed*," from our acquaintance with and confidence in our author, that it was free from at least some of the objections urged against it. But, we have lived long enough to "*unlearn*" what we "*erroneously believed!*" We would be glad if those who use amalgam would report their failures; if so, we should forever remain silent on the matter; but, in the language of an intelligent patient to us, "It is your bounden duty to make my case known to the public." We cannot find fault with young practitioners for resorting to this substance for filling large cavities, in order to retain their patients in their hands; yet, we believe that it would be more to their credit to send their patients to older and more competent operators for such *capital operations*, as is the case among young surgeons, until, by simple operations, their skill would be developed into that maturity which would enable them to perform that class of operations themselves. It cannot be denied that there are many operations of plugging which cannot be well performed by a very young or a very old practitioner, but only by one who is in full possession of all his faculties, and in the prime of life. A proper understanding in this direction, in an enlightened profession, would better preserve its charter before the world than a resort, by a few, to expedients which are liable frequently to end in disgrace to the whole profession. The following cases will, doubtless, explain the remarks that we have made:—

Case I.—A gentleman called on us, from a young dentist, to have his teeth examined, as they had become uncomfortable and very much blackened. We found four large cavities plugged with

amalgam of the new kind ; they had been done about six months. The dentist assured the patient that the teeth could not be plugged with gold. We found no difficulty in plugging the teeth with gold.

Case II.—A young lady consulted us to know why her teeth looked so dark. We found three of them plugged with amalgam ; they had been plugged about three weeks. One was a left inferior bicuspid ; front part and crown surface decayed, and communicating. The patient inquired of her dentist, at the time, why he did not plug it with gold. He answered that it could not be done ; the cavity was *too large*. The others were both right inferior bicuspids, approximal surfaces,—both small cavities. When the patient inquired why these were not plugged with gold, he answered that the cavities were not *well shaped*. This dentist was old enough and competent to have plugged them well with gold, as many good plugs in the mouth testified, and had been done years ago.

Case III.—A lady from a distance had a front tooth plugged with the new amalgam ; the dentist recommended it on the faith of what had been said about it in this journal. He assured the patient that it would not discolor. The patient found the tooth turning blue ; and, before she could see her dentist, it was quite black. When she saw her dentist, he told her that the tooth was ruined, and must be cut off and another set on. The patient, however, preferred to employ another dentist rather than submit to this operation by him.

Case IV.—An elderly lady had a left inferior first bicuspid plugged ; nerve dead. She called to inquire whether it caused her mouth to be sore, and if so, she wished it extracted, as it made her “spit all the time.” The tooth was extracted. It was new amalgam ; had been in the tooth three months. She inquired, “Why do people undertake to fix teeth who do not understand it ?” The exposed surface of the plug was very bright, but the tooth as black as ink. This has been true of many cases that we have seen ; the surfaces of the plugs were bright, but the teeth black beneath them.

Case V.—Mr. — S., 44 years of age, generally in good health, bilious-nervous temperament, had a large molar plugged with amalgam. His health became bad. He could not sleep at night, as the water accumulated so much in his mouth. He consulted his doctor, and he told him he was suffering from salivation. He called on his dentist, and told him how he had been affected since he had plugged his tooth. The dentist at once exclaimed, “Why, you are salivated ! There has been a *little free mercury left in the plug*. I will take it out, and put one in that will be free from such objection. It is a new thing, and contains no free mercury.” The plug was put in, but it turned

black also; and in about two months the same set of symptoms set in; constant spitting, day and night, accompanied with stricture across the chest and about the throat; frequent spots of ulceration of the mucous membrane of the mouth, and excoriations of the corners of the mouth; debility and emaciation, with loss of appetite, supervened. The sputa was frequently white and frothy. He had fever of the mouth, and heavy breath, and sometimes oppression. The patient remarked that he would not go through with the same thing that he had done the last month, before the plug was removed, for five hundred dollars, and that it was our bounden duty to communicate it to the world, for the benefit of mankind.

THE DENTAL NEWS LETTER.

OCTOBER, 1856.

Our Present Issue and the American Dental Convention.—As will be observed, our present number is almost entirely occupied, to the exclusion of many communications and other variety of matter, with reports of meetings, which we give in extenso, and to accomplish which, we have added sixteen pages to our regular issue.

We would have had this number out sooner, but for the delay occasioned by those having the charge and correction of the minutes of the American Dental Convention. We shall, however, know how to guard against a like result in the future.

The numbers, and the interest manifested by all attending the Convention, gives ample proof that the movement is appreciated, and must therefore be productive of great good professionally and socially.

One thing we could desire, which is, that the discussion which occurred in the first morning's proceedings in reference to membership, and admissions from auxiliary branches, were blotted out, or rather, had never occurred. A *Dental* Convention should be composed of *dentists*, who should come in by right, under the very simple forms or laws which had been adopted for the government of this convention at the outset; and others, not dentists, deemed every way worthy of association, from prominence, or services rendered, might be elected by ballot, but even this may be overdone, and we think the convention will find a necessity for more stringency on this point than was manifested at their last meeting. Local differences should not be allowed to interfere with the general welfare of an association of so national a character as this must necessarily become, and we trust such differences will never be brought into its future meetings.

The movement is onward—its progress beyond our most sanguine expectations, and it has now secured a status, which, with proper regard to the rights of all, and the abandonment of self, will eventuate in a glorious brotherhood of earnest co-workers in the cause of science and of truth.

J. R. M'C.

In the *Dental Recorder* for *August*, we find an editorial taking us to task for remarks made by us in a former number, upon sentiments uttered by a gentleman, (we do not use this word merely in a conventional sense,) in a valedictory address,* and also for our comments upon a little advertising pamphlet, and the certificate attached thereto, in favor of a palpably worthless article, the genuineness of which certificate we had no reason to doubt†.

Our remarks in the first case, were wholly relative to the sentiments uttered, which we could not endorse, and which we will venture to assert the editor of the *Recorder* cannot endorse; therefore we had to do solely with the sentiment, and not with the man or “actuary,” a distinction which we are sure the editor of the *Recorder* will appreciate.

As to the second case, we could not but feel disgust at the attempt to bolster up an article so perfectly worthless, by giving a certificate of the strongest character, and therefore expressed ourselves plainly; and here again, is the distinction we would have observed, that our remarks applied to the giver of a certificate, and not to the “actuary.” It was not the *man* but the *certificate*, and personal feeling had nothing whatever to do with either case.

We will embrace this opportunity to say, that we hold it to be the duty of every journalist, and that without any assumption of authority, to point out what may be deemed erroneous sentiments—professionally hurtful in their character; and also to expose those unprofessional and empirical practices which are so eminently calculated to disgrace and degrade the profession. If such be not allowed, or the motives be impugned, good-bye to the independence and usefulness of all our journals.

J. R. M'C.

☞ In consequence of a press of matter, the continuance of the articles on the “Condensation of Gold,” is omitted in the present number.

☞ We would call attention to various advertisements on cover, which want of space will not allow us to particularize.

J. R. M'C.

* See News Letter for July, 1856, page 283.

† See News Letter for April, 1856, page 215.

THE DENTAL NEWS LETTER.

VOL. X.

PHILADELPHIA, JANUARY, 1857.

No. 2.

[In consequence of the non-appearance of the following Essay in pamphlet form, as authorized by the Convention, we give it place in our present issue. ED.]

ESSAY UPON PROFESSIONAL FEES.

BY ELISHA TOWNSEND, D. D. S., M. D.

Read before the American Dental Convention, at their Second Annual Meeting, in August, 1856.

Four years ago I had the honor, by appointment of the American Society of Dental Surgeons, to read before it a paper upon Professional Fees.

Constitutionally averse to those forms and bearings of controversy which have anything of moral assault and battery in them, I forebore to press the just complaint of the Profession against fees exceptionably low, for, though I could be sure enough for my own satisfaction, that the deserved animadversion would be free from all personal feeling on my own part, and just as free from any intended personal application to the individuals justly falling under the censure, I could not be sure that it would escape such application, and the unpleasantness of feeling that follows hard-hitting, however free from animosity. Feeling since, that the truths which govern conduct in this matter, ought to be driven clean through the subject and clinched on the other side, I propose now to add a few strokes of the hammer, let the point turn and grip where it may.

I give it no special direction, and if it pinches, or goes against the grain, or makes a split, I will only have to pay for the putty that will smooth it over again.

I could be well contented to leave the wrong to exhaust itself, while only inferior men, knowing no better, and capable of nothing better, work at handicraft wages for such work as they sufficiently reward; because, I suppose, the wood-sawyer does not seriously injure or dishonor the cabinetmaker. The tools which they respectfully use and the sawdust which they make, sufficiently distinguish them for the security of the superior artizan's interest and reputation, and there is

no danger of the shop being confounded in public apprehension with the curbstone ; but when the mechanic, free of his guild, compromises with the cross-cut and the wood-horse, and *cor*ds up his jobs with a roughness proportioned to his speed, and lowers his prices a little and increases his business a great deal, to the injury and discredit of his art—then I think his brother chips have a matter of just complaint against him. The grounds of this complaint are these, and the like : Workmen with a good deal of skill, can botch jobs, in all points capable of concealment from their customers, to an extent that greatly diminishes the cost of production, and as greatly under-bids first-rate articles of the same kind in the market ; and the reputation of the jobber, if he holds a good professional position, adds a false warranty to the quality, and so drives fair and honorable competition out of the field.

A man's real superiority in his art is his lawful advantage ; he ought to have it ; and the world should have the benefit of it, and his competitors are benefitted by all their efforts to work up to him. Nothing but good grows out of such excellence to any body whom it affects. It is all fair trade, but the tricks of trade are another matter, and stand to a different account, which his fellow craftsmen are concerned to settle against the man who employs them, on the ground that their just rights are violated by such unfairness.

Sleight of hand, in its honest English sense, is lawful, but Frenched into legerdemain it is contraband, by all the rules of public policy and private rights. The inspection laws of the State and the city are grounded on the principle of the public protection and the defence of the fair dealer against fraudulent competition, and the moral sentiment which condemns false measures and false weights, justly bears still heavier against false appearances, which are more dangerous and mischievous by all the difference of difficulty in their detection. Besides the injury to private rights, there is a great wrong inflicted upon the craft by all successes of unfair dexterity, which all parties are deeply concerned to prevent.

If excellence in an art, and progress in its improvement, are rendered unprofitable, and their conditions impossible by workmanship that tends to deterioration in the quality of the product, and the undiscerning and incapable public are seduced into its encouragement, the craft is demoralized, and all genius and skill that are honest are driven out of it, as all honorable eminence is prevented in it.

This is bad, even for the ancient and honorable company of wood-sawyers, so far as tricks are possible in their trade ; but, when it creeps up into the range of art, where veneering and imitation oaks, walnut

and cherries are practicable, all dexterity at deception and underselling in the market, puts the business more and more within the province of the craftsmen's concern.

Out of the relative rights and duties which the industrial arts create among their members, the necessity for friendly, fraternal and business associations arises.

In Continental Europe, *Devoirs* for all the trades, associate the workmen into companies, whose constitutions rule the whole business conduct of the acknowledged membership; and under the rudely administered justice of the fraternities, the men who offend against the common interest and honor, get their heads broke by way of caution to the weak brethren who are in danger of being subdued or seduced by the misconduct of the unworthy.

Free masonry, probably, had its origin in this policy of a handicraft, when its hammer, plummet and trowel were the implements in actual service. Our own printers', carpenters' and other trade-unions, are of the same character, and have similar objects, though differently effected in the infliction of penalties.

And it is worthy of notice that while all the conduct of the craftsmen which affects the brotherhood is put under the government of their unions, as it ought to be, the main and ruling idea of them all is, the regulation of prices, as the means of securing every other beneficial object in their aim. There is a sound philosophy in this idea, which I need not discuss farther than just to observe that under the rule of low wages, proficiency is levelled to the rank of unskilfulness, eminence is starved down to mediocrity, or driven out of employment, and the men who have in good faith learned an art, find that learning useless to them, and they must either go back again in all their conditions to the society of the unlearned, or use their skill to abuse the public confidence, and destroy the best interests of an honorable calling.

Under-working and under-selling having these consequences, may well be regarded as treason to trade, and mortal sins in the decalogue of business morals. The law of masterdom long treated such associations as conspiracies, and punished them as misdemeanors, with fine and imprisonment, but revolutions in the civil and social systems of society, have settled the justice of such associations, purely upon their necessity; and the legitimate sovereignty of the useful classes has dethroned the despotism of the aristocracies of wealth and civil power.

The workers, who make the world's wealth, have grown strong enough upon their small share of it, to obtain the government of the bread question, and knowing that all other rights and liberties must

begin there, they say that whoever touches their prices to depress them, is their enemy ; and if one of themselves is the offender, he is a traitor, and must be treated as one, with no other respect of persons than an increase in the penalty in proportion to the mischief he is capable of doing. These associates in hard work and partners in a common interest, have other ways of lynching a delinquent than by violence—they won't work with him, nor consent by any act of tolerance, to help the mischief that he does them. They are right in the principle, and are only in danger of mistake in its application. This danger of theirs is owing chiefly to the fact that the administration of discipline is necessarily in the hands of the injured, outraged and impassioned party, and so may catch the character of selfish revenge, and carry the punishment to undue and unnecessary lengths.

This is not so in our profession—it is in the power of the men who are not at all affected in their private interests to apply the remedy. No man has so little personal concern in quackery as the well established and well educated physician ; *his* zeal for the repression of the mischief grows out of his reverence for his profession and his solicitude for its advancement in usefulness and honor, and he can therefore be trusted to exert all his legitimate force in the correction of the mischief. So well and so faithfully do the members of the professions, long and well established, exert this power in their hands, that all the men, in regular standing with them, are held up to the common standard of conduct, both in the etiquette of practice and the rate of charges on which the common character and general prosperity of the faculty depend. The want of such conformity prevailing in any learned and liberal art to any considerable degree, is a sign of its immaturity and disorderliness. It proves not the absence of the sentiment among its members, but the lack of an effectively exerted opinion for the prevention of abuses.

The Dentists of this country have not yet been able to organize themselves sufficiently for that combination of action upon the practice, which would compel a general observance of duty, by all the practitioners in tolerable standing with the community ; but it is the time now, in my judgment, to take ground and endeavor a reformation, with the hope of a very early success. The men who meet here in convention, are sufficient to begin the work, so that it must be soon and satisfactorily accomplished. Let us make it the subject of reflection and discussion, and so set the forces at our command in motion. We have already, with a success both earlier and greater than any of us would have ventured to promise five years ago, liberalized the societary influence of the fraternity, and now it is doubly imperative upon us to see

that the improvement of our profession's conditions shall keep pace with its enlarged freedom of intercourse and association.

We have made a successful movement for the *freedom* of the fraternity, and we must next strike for its honor and well being. This is fairly within the power of a well digested opinion upon professional duty and a corresponding enforcement by all the means and influences which an established sentiment can command. We are not calling for tests, pledges or quack laws of our own contrivance, but for the authoritative expression of the better judgment of the fraternity concerning the duties of the practitioner to the profession, and the resulting determination to carry it into effect by all honorable means within the power of each individual convinced of its propriety and obligation.

I think, and others whose names would greatly strengthen the opinion, think with me, that now is the time for action on the subject. Some of the reasons which support the opinion may be given, but without pretending to exhaust them or to cover the whole ground of the exigency. The system of education in Dentistry which may be called classical, is rapidly rising in estimation; elementary treatises, periodical literature and collegiate instruction are multiplying their force and efficiency at a rapid rate. The standard of requirement is rising in and out of the profession, in due proportion to these powerful agencies, and a laudable ambition for excellence is growing to be the characteristic of the pupils and younger aspirants for professional success. To gratify and reward such aspirations where they exist, and to invite that sort of spirit, by providing for its indulgence and rewards, is therefore a special duty of the time. It is indeed the duty of all times, but it is the necessity of the present; and we must address ourselves to it.

Through all the public agencies of the educational function, there is but one tone and one tendency—the improvement of our art. The stimulus and the exhortation are as impulsive and impressive as they can be made, but what can promptings and precepts avail when they are resisted by agencies which have the power to compel the surrender of principle or crush the prosperity of the generous young man who endeavors to maintain it?

If the men who have an established reputation degrade prices below such remuneration for good work as the young candidate for business success can live by, the struggle to which he is put, may be something more than he can sustain—when he is told by every applicant that comes to him with a huckstering spirit, that Dr. somebody, that everybody knows, and has more patients than he can attend to, charges but little more than half the prices which he asks; what shall he say to

it? and what shall he do about it? He has the skill and science of the profession, but he has yet no fame which can command the business of the more judicious and liberal class of patients, and he must succumb or submit; he must substitute speed for perfection of work; he must contrive to just satisfy a patient who has learned that the thing can be done for a price which he has every reason to believe, is compensation for standard services, and if he consents, he has done that which will make every accommodation afterwards easy in proportion to its practicability. He must do up twice as many cases, put in twice as many fillings as he can do well, or he can and must do nothing; and if he is driven to under-working and under-bidding the man who first put him upon the necessity, it is well, or rather it is not quite so bad as it might be.

Now the men who are engaged in this practice, deserve to be told that they are engaged in degrading the profession, and ought, by the just rules of Medical and Dental etiquette, to be ruled out of it. Whoever is concerned to keep up its honor and reputation, is just as much concerned to put them down, and will, in all their professional conduct, accordingly give them a *tremendous letting alone*.

They will say to him, we have seen other quackeries subside upon experience, and with one voice we intend to settle yours in the same way. We made them open and declared enemies of the fraternity, and just as soon as we can get you to put on so much honesty, your case is settled. We do not impeach your ability, but your professional honor, and one of these days your intelligent patients will be down on you like judgment day, and you may then fall back on the lane and alley practice which you have so assiduously courted. The older men care nothing at all about you now, and very soon you will be out of the way of every honorable boy in the brotherhood.

These cheapeners of talent and skill have, beside their direct depressing power upon beginners, a pernicious influence over them. They are usually great boasters about not only the number of patients which they have, but they talk like the fast young man who said, "he ran through Shakspeare one day and Euclid the next, skipping what he called the 'figgers' in the one, and the long speeches in the other." Speed,—speed,—is their cry, as if it were acres of ground they were ploughing through, instead of achers of dentine they are concerned with—and they have as many reasons to give, (reserving always the true ones,) for rushing through or over their work, as may satisfy any fool, and some novices, in the practice. They do not seem to recollect that whoever works well enough is certain to work fast enough, and

also that the character of the service is to be settled by the duration of the benefit, and not by the speed of its execution.

The man that can utter fifty words more in a minute than anybody else, might as well offer the fact to prove that he is a capital elocutionist, and the unhappy subjects of the gabble would be about in the same predicament with those that are the patients under such a scuffle of the dentist with time for the stake of a dollar.

I know not what amount of celerity in the finger-smithing of our art may be attained by those who aim at nothing else, and I know no use that such curious information would serve ; I would look for, and could appreciate, such qualities in a sewing machine, or a nail-cutter, or a power loom ; but what has it to do with filling a tooth, or with fulfilling the Dentist's real duty to his patients ? "Slow, but sure," would probably never have got itself into a proverb, but for the impudent pretentiousness of that heals-over-head-haste which it serves to rebuke.

Slowness and fastness alike are entitled to no consideration on their own account. Skill and integrity are not concerned about either ; with them the question is, quality of execution, and time must take care of itself in the process, for it is of no account when the substance of the duty is secured. The fast man is too fast to be trusted ; the slow man too slow to be endured ; the capable and honest man is neither the one nor the other, nor is he in any way concerned with the question of velocity, except as it is involved in the perfection of his work.

The subject of professional remuneration, it is admitted, is a difficult one to get into a fee bill. Rules would make it too stiff, and arithmetic too inflexible, but principles can govern it safely. Patients should pay for the skill that they need, and the advancement of the profession which has charge of their interests, and that pay should be a fair bid for the best talents and the most devoted attention which is required ; and whoever offers less, and whoever offers to accept less, deserve to know and to feel that they are unworthy of the services and of the ministries of the art.

Extortion of exorbitant prices is a sin against the trust reposed in a professional man by his patient, and in the last degree dishonorable to the one and injurious to the other, and no man but a ridiculous egotist or detestable miser, would so pick a pocket that is frankly opened to him. But this much may be said even for extra high charges in Dentistry, that every body may know the rate, and must be about as well persuaded as the operator, that it is a good enough bargain before it will be made ; while, on the other hand, the extra

low charge is made the main inducement, and the operator is the only party to that bargain who certainly knows it to be a bad one for the patient, and so the money motive falls along with the prices—heavier the lower they descend. Lynching is the revenge of a rude system for the offence, and contempt is its correspondent in a higher range of life for the same thing—the offence being so much the greater, justifies the greater severity of the penalty—for, I take it an honorable man's scorn is heavier and severer than a short ride on a rail.

Here I very willingly leave the less agreeable subject of these strictures and turn to a point in professional conduct that, perhaps, as much as any other, demands the attention of the faculty. I allude to counsel fees—charges for advice to our patients when no other service is rendered to them. In medical practice advice is *the* thing charged for. Whenever the physician is not his own apothecary, he has nothing else in his apprehension in making out his bill. If the account reads so many visits, so many dollars, though the word "*consilium*" happens not to occur among the items, you may depend upon it the doctor does not intend to be understood as charging only for the services of a runner, or messenger, or servant to his patient—one, or two, or three visits means just one, or two, or three advices, as many instances of skill and judgment in the case put at the service of the patient; and however time and distance may figure in the account, it is not pedestrianism or wages by the day or hour that is the substance of the charge—he never thinks of his muscular service as anything but a necessary incident to the exercise of the professional function, and names it only as a means of measuring the value of the science and skill exerted in behalf of his patient.

Moreover, he always charges *advice*, and that in proportion to its intrinsic value, charges it nakedly and independently when neither time nor toil make a sufficient figure in the service to cover its fair remuneration.

This is the difference between a learned profession and a mere handicraft. And, if Dentists intend to give their branch of the remedial art a fair position among the liberal arts, they must openly and distinctively estimate what learning and skill they have, and demand for the service of their brains a fair remuneration, and also secure for them a direct acknowledgment by their patients and by the public. A gentleman who has some time or other consulted a physician, surgeon, or lawyer, and knows what that intangible thing called professional advice is worth to him, and at what expense of time and toil and talent the power to give it has been acquired, takes

his seat in a dentist's] chair, his teeth are carefully examined, and without any handicraft services, he is advised to his benefit and assurance, and the dentist, because he has done nothing with his fingers, is as shy of charging for his professional judgment as if either his art were not a profession, or he could not modestly claim to belong to it, and therefore the conclusion is a settled one, that his office is a shop, and his art a trade—by his own showing.

To those among us who have some consciousness that this is below the dignity of our profession, but are without the courage to maintain it, I would say as Hamlet says to the poor players, who having neither the accent or gait of physician, surgeon or dentist, but play a sort of journeyman character in the business: "Oh, reform it altogether."

I say charge for your advice, charge for the thing that your patients require of you, on the grounds of their confidence in you, and deliver your calling from a degrading depreciation. You know the claim to be well founded—make your patients know it as well. It is the very thing they need to know, and their faith in it is the most valuable thing to them of all that their money can possibly purchase from you.

Some of us here present have lived through all the painful period of our profession's growth, from the lowest rank in public estimation, till it has secured a reputation level with its own highest demands.

It is the youngest branch of a respectable family; in its childhood it was bound out to service, but its blood is gentle, its instincts noble, and it has only now, in its well grown manhood, to assert its natural rank and so secure it. Already it stands as a profession; in the average, clearer of quackery and incompetency than law, medicine or theology. Let its practitioners but walk worthy the calling wherewith they are called, and its public honors will very speedily answer like an echo to its just pretensions.

I need not press upon such an audience as this, the argument which concerns our own advancement, through the reactive influence of the fraternity. Every man capable of weighing the force of a professional standard, the influence of a professional ideal, acting upon the mass of its practitioners, knows better than he or I can explain how mighty the power of opinion is, in the reformation of abuses, when that opinion touches the spirit-springs of enterprise and progress; it is the trumpet charge that wakens the dullest dragoon to duty, and makes a hero of every common soldier. He looks to the floating standard of the corps, and the corporate enthusiasm carries him clearly abreast with the most generous spirit in the ranks.

I am speaking now to the representatives of our rising profession, and I know that neither hope nor faith is wasted on them. Upward, onward, is the impulse that is stirring in every heart, and there is not a laggard in all the ranks that *can* check our progress now. "We count not as though we had already attained, neither were always perfect, but this one thing we do—forgetting those things which are behind, and reaching forth unto those things which are before, we press toward the mark for the prize of our high calling in liberal learning."

For the Dental News Letter.

CARIES AND NECROSIS OF BONE.

BY J. D. WHITE.

The very frequent application which is made to the dentist for the treatment of those affections, renders it quite necessary that a more general knowledge of their character should be known. It is surprising that any affection, differing from the regular routine of plugging and extracting teeth, should be construed by them, as is frequently the case, into something wonderful or strange; or, in other words, that dentists do not exert themselves as much to learn the surgical diseases of the mouth as they do the more mechanical operations. It is truly deplorable to reflect upon the amount of time that has been, in a manner, wasted for years by society gatherings and conventions, composed of some of the most eminent in our art, in discussing constitutions, by-laws and claims to patented and other improvements in the merest mechanical matters, and not an hour devoted to the higher requirements of our noble profession.

Caries is defined by some, as a "solution of continuity in bone, with more or less loss of substance, and is analagous to *ulceration* of the soft parts," and *Necrosis* may be understood as "a complete caries or true sphacelus of the bone," or "bone deprived of life," it is to bone what *gangrene* is to the soft parts. But we will not trace it through all its distinctions.

"Caries in bone prevents the firm and permanent reunion of wounds of the investing structures. It may arise solely from external injury, or local causes, or from internal constitutional vitiation, or conjointly through the action of both. Caries, from whatever cause arising, is attended with destruction of the periosteum. The dark or greenish yellow color of the pus, often bloody and streaked, the soft and inverted condition of the edges of the ulcer, and the fungous appearance of its centre, are symptoms which mark caries of the bone."

The sound or probe is the surest means, however, of detecting deep-seated caries, (*Jourdain*,) and should be of gold or silver, as a sharp steel instrument would penetrate into the structure of the bone. An accurate knowledge of the normal inequalities of the parts is necessary, lest we mistake a natural roughness for diseased bone. Superficial caries may be known by an unhealthy condition of wounds, ulcers, fistulas, or indisposition of external integuments to heal. Still, the touch is most certain: a healthy bone feels, under a smooth probe, to be of a soft character, while the caries surface is hard and granulated; to the touch, caries or necrosed bone feel like pumice stone.

Jourdain remarks, that "In the treatment of caries we should consider its degrees, which we may regard as three-fold. In the first degree, the caries is recent, quite superficial, the result of local causes, and but slightly altered from the natural color of bone. In the second degree, the caries penetrates to the spongy tissue of such bones as have any; the color is more marked, the appearance of the ulcer and supuration is such as indicates an internal as well as a local cause, and the surface of the carious bone, instead of presenting the simple asperity of the first degree, is softened, so as to yield before pressure of the probe. In the third and last degree, both color and structure is entirely changed; the loss of substance is considerable, and the bone presents that corroded appearance giving rise to the term worm-eaten caries; the exfoliated bone is dark, yellow or greenish, according to the internal vice accompanying the disease. It frequently happens that after a diseased tooth of long standing is extracted, that the clot of blood sloughs from the cavity, and the margin on the whole alveolus is found to be denuded of the periosteum, or is in a state of caries. Such caries are generally successfully treated by mopping out the cavity with a strong solution of nitrate of silver or the chloride of zinc.

Case 1.—We extracted a root of a superior lateral incisor, a short time since, and requested the patient to call and see us in a few weeks to take the impression of the mouth, to set a tooth on a plate. We found that the cavity was still open as though the root had been extracted but a few hours. In probing the parts, we found that the whole surface of the cavity was rough, denuded of the periosteum; we washed the parts well with a solution of the nitrate of silver, strength, about twenty grains to the ounce of water, and in a few days healthy granulations set in, the cavity contracted and the parts healed kindly. We find this to be the case very frequently, and sometimes a thin plate of the internal surface of the alveolus exfoliates. It is

not proper, in good practice, to cut or scrape away bone that seems to be denuded of the periosteum, as granulations may be thrown up and the parts heal without a loss of the bone, except that which may take place by absorption ; but if a portion becomes detached, it is necessary to remove it, and apply some stimulant to excite a healthy action on the surface from which it has been detached.

Case 2.—The following case may be of some value. A laboring man applied to a young dentist for advice, suffering from pain in the front inferior incisors ; the gums were very much inflamed, as well as the whole chin ; he removed some tartar which incrustated the teeth, and prescribed a wash for the mouth, but it did not seem to give much relief ; the patient returned in a few days, complaining of great pain, the teeth were much loosened, but sound ; the dentist gave him a note to us to examine the case and give an opinion. We told the patient that there was dead bone below the roots of the teeth, and that two of them had better be extracted to get at the diseased parts, which he submitted to, and a number of leeches were applied to the chin, after which cold water dressings were applied ; in a short time the pain and inflammation subsided, but considerable swelling of the parts remained, with discharge of a large amount of pus from the sockets from which the teeth had been removed. Upon probing, the bone was found to be denuded at the bottom of the sockets, a strong solution of the nitrate of silver was introduced with a tent of lint, and in a few days the bone was observed to be loose. The parts were well opened with a lancet, and a portion of bone removed as large as the end of the little finger, and corresponding to the space between the ends of the roots of the teeth that had been removed and the chin ; the parts healed rapidly, and became sound in a few days.

Case 3.—A young lady, about twenty years of age, presented herself, suffering with a swelling of the whole of the gum, extending from the right canine to the wisdom tooth, upper jaw ; the swelling extended half way over the roof of the mouth. She had been under treatment by a distinguished medical man, for about four months, for paralysis of that side of the face, complicated with numbness, and neuralgia of that side of the head and shoulders. We found that the pulp of the first superior molar had been dead for a long time, and that it was very loose. We lanced the gum from around the neck of the tooth, and it fell out of the mouth into the spittoon, together with a portion of bone between the tooth and floor of the antrum ; a great deal of pus and blood was discharged. We could pass a probe over the roof of the mouth and back as far as the wisdom tooth. We supposed that a

great portion of the bone would exfoliate; but it did not. We washed the parts every other day with a solution of the nitrate of silver, about ten grains to the ounce of water, and in a few weeks the parts healed kindly, and the integuments contracted and became sound, and the teeth that were very loose, as though they would fall from their sockets if touched, became firm and healthy; and the nerves of sensibility and motion regained their normal character. These cases are regarded as simple caries with slight necrosis.

We have treated a great number of cases of pure and extensive necrosis in connection with many of our first surgeons; but feel ourselves incompetent to report them properly. We will give the following important and interesting case, from the able pen of the patient, a student in medicine, and treated by Prof. T. D. Mütter, as being much more valuable than anything that we could give.

Philadelphia, July 21st, 1856.

DR. WHITE—*Dear Sir*:—In compliance with your request of last week, I am happy to furnish you with all the information in my power, respecting my own case:—

On Christmas day, 1854, a very painful boil appeared upon the apex of my chin and continued for some time. The usual applications were made use of, but with very little success, in inducing suppuration, or relieving the pain caused by the excessive tension of the integuments. Soon after its appearance, I took a couple of Blue Mass pills, but with no effect upon the bowels, and some days afterwards, I noticed an increased flow of saliva, unaccompanied by any fetor or soreness of the gums or loosening of the teeth. About ten days afterwards, after imprudent exposure to the chilly dampness of a rainy evening, I took a severe cold, and upon retiring to bed soon after, falling asleep, I was awakened by a sensation of suffocation, and found, upon examination, that my throat and chin were very much swollen and of a dark, mottled hue, almost black. Leeches were at once applied, the wounds allowed to bleed freely for some hours, but could not be stopped until late the next evening. Local and general antiphlogistic treatment was adopted, but with no success in relieving the agonizing pain, which continued, with no cessation, for nearly a fortnight—my pulse between 130 and 140—so that it was impossible to obtain a moment's rest, save by having my wrists and ankles gently rubbed by the hand; this soothed me, whilst anodynes produced not the slightest effect.

Whilst the pain was at its height, my teeth became very loose and so elevated from their sockets, that it was almost impossible for me to

close my jaws. The salivative was most profuse, but unaccompanied by any fetor, yet was of so intensely sour a taste, that owing to my unconsciously swallowing it, the whole alimentary canal became so irritable, that the slightest warm drink or morsel of food occasioned intense pain in passing along it into the stomach. There was excessive thirst the whole time, which was best relieved by orangeade, simple water producing nausea.

The pain, after almost a fortnight's continuance, moderated, but the swelling, if anything, increased, and finding that nothing relieved me, I was advised by my physician to consult Dr. Mütter, which I did on the 13th of February, 1855.

He at once pronounced it a case of necrosis, extending from the angles of the lower jaw, on each side, to the symphysis—cut down upon the bone and found it very much necrosed, as he expected—let out the pus, which relieved me very much—put me upon a full diet, the iodide of potassium and cod liver oil—directed me to travel and spend some time at the sea shore; by which treatment I was very much benefitted.

I afterwards took quinine and phosphoric acid, lemon juice and cod liver oil, discontinuing the iodide. I improved wonderfully under this treatment, and soon recovered my strength. The swelling rapidly abated; a discharge was established from the incision at the left side of the jaw and at the symphysis, which yet remained running, though now much lessened in quantity. Shortly after Dr. Mütter operated upon me, two abscesses formed upon the right side of the jaw, opened spontaneously, and continued discharging, until the exfoliation of bone on that side had ceased. Bone has been freely discharged, in pieces of various sizes, from all along the line of the jaw, fortunately working their way through the inside of the mouth.

The salivation was unabated, until after I commenced taking the lemon juice; within three days from that time it ceased entirely; my gums became firm, my teeth once more tight in their places, though owing to the great loss of bone, for nearly a year I only used soft food, soups, milk toast, &c., but now I am able to chew solid food, almost as well as before my attack. But one tooth was lost, although all in the lower jaw were so loose, that by the application of my tongue, I could easily bend them over almost horizontally. That tooth I need not have lost, as the subsequent natural position of the rest sufficiently proved, but owing to its looseness, it annoyed me so much that I drew it out with my fingers. Another one of my back teeth on the left side has crumbled away, giving no pain whatever.

The exfoliation of bone yet continues, but not so frequently as during the past year; there is always at such times, a little increase of the natural flow of the saliva, a heated, throbbing feeling in the mouth; an abscess forms, and upon its opening, the loose bone is found beneath. The slightest stimulant produces a painful throbbing sensation in my jaw, and if, at such times, any pieces of bone may be loose, they soon make their appearance on the surface. The upper jaw was perfectly unaffected by the disease. For some months past, I have entirely discontinued my medicines, and find that my face is gradually resuming its natural form.

Hoping that these few notes of a case of so much interest to myself, may serve your purpose,

I remain very respectfully, yours, &c.,

THOMAS M. BLOUNT.

For the Dental News Letter.

ANNEALING GOLD FOIL.

MESSRS. EDITORS:—I have read much in your Dental journal concerning the working of gold foil, and have a way of preparing mine for use, which I think makes it work much better than when used as it comes from the manufacturer. My secret simply consists in annealing.

Gold foil is, when annealed by the manufacturer, very carelessly done, and when done most carefully (their way) by them, is cooled too quick and handled too much after annealing, as quick cooling and handling tends to harden it much. I will therefore give you my way of overcoming the difficulty.

I have a small box made of sheet iron, about two inches square and one inch deep, with a close-fitting cover. I form my gold into the shape required for use, (I generally use pellets,) put them into the box, heat them to a bright cherry heat, and leave them in the box until cooled. This process leaves them very soft, and consequently very adhesive; more so than by annealing in any other way.

At my first trial, I was much surprised at the improvement, and consequently much pleased. This is very simple—but my success has been such as to give me the idea that it might be of some use to those of the profession who may have had trouble with their foil, also to those who cannot use sponge gold, and wish their foil more adhesive.

If you consider this worthy of an insertion, you are at liberty to use it for that purpose.

Yours, truly,

E. D. S.

ALARMING CASE OF HEMORRHAGE.

Miss —, aged about 16—temperament, sanguine nervous—applied to have the first bicuspid and first molar of the left side of the superior maxilla extracted, and remarked at the time that she had previously had trouble from her gums bleeding after having a tooth extracted. We, however, paid but little attention to this, and extracted her teeth. She returned on the afternoon of the same day, with her wound bleeding, which proceeded from the cavity left by the molar tooth. We immediately applied a compress, formed by mixing tannic acid with water and saturating lint well with it, and filling the cavity, and cut a cork to fit over the gum and tied the jaws upon it. This stopped the blood for three days, being the 11th of the 4th month. On that day the cavity of the molar began to bleed again slightly, and on the following day the cavity of the bicuspid commenced to bleed, at which time, the family physician, Dr. —, of the Allopathic school, was called to the case; he treated the case until the 17th, unsuccessfully, not being able to arrest the hemorrhage, but at short intervals.

By this time, the family of the patient had become very much alarmed for the life of the young lady. They then called us to see the case; in the evening about seven o'clock, we saw the patient; found her in bed with many blood-stained cloths and bed clothes, and surrounded by very anxious parents and friends, who, by their anxious looks, bespoke their well grounded fears. This being the first we had heard of the case, since stopping the hemorrhage, on the day the teeth were extracted, I examined the case with Dr. Hurd in consultation. As it had then ceased to bleed, we determined to leave the case until morning, with directions that should it bleed again, to inform us.

18th, 4 o'clock.—It commenced to bleed again; we went and at once removed the Doctor's appliances; took an impression of the part; struck up a plate, forming it so as to bind against the sides of the gums, and took pieces of buckskin well saturated with tincture of kino and tannic acid; laid them over each cavity, (fearing the other might bleed,) put on the plate and tied up the jaw, with a piece of cork between the teeth and plate, which served a double purpose of a compress, and kept the mouth open, so the air could not be exhausted, forming thereby an involuntary tendency to draw the blood from the wounds, and at the same time, admitting some spoon victuals as nourishment. We directed the patient to take the following prescription, a teaspoonfull every 2 hours:—Brandy, $\mathfrak{z}\text{iv}$; quinine, sulphate, $\mathfrak{z}\text{ji}$; cinnamon, pul., $\mathfrak{z}\text{ji}$.

19th.—Found my patient improved ; changed the buckskin ; washed the mouth with an astringent wash ; applied fresh tincture of kino and tannic acid, and tied it up.

20th.—Washed the mouth as before, and renewed the kino and acid three times.

21st.—Still improving.

22d.—Removed the compress ; during the washings, the parts discharged a quantity of pus, but ceased to bleed from the time the compress was applied, and the case fully and speedily recovered.

S. MARSHALL.

Wilmington, Del., 5th month, 1856.

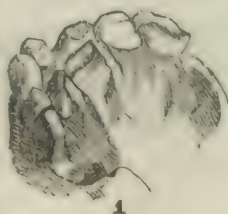
For the Dental News Letter.

IRREGULARITY OF THE TEETH.

BY J. D. WHITE.

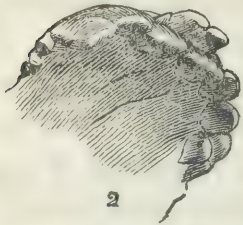
The irregularities of the teeth furnish a subject of unusual interest to the dentist at the present time. The very early loss of the deciduous teeth, by decay, extraction for pain, and fancied injuries to the gums, second teeth and health of the patient, by occasional ulcerations of their roots, renders almost every child liable to present a case of irregularity of more or less importance. The dentists do not seem to encourage enough the preservation of the first set of teeth. It is too much an anxiety on the part of parents to hasten to get rid of the first set of teeth of their children, as though they were mere obstructions in the way of the proper development of the second set. Between the dentist's fear of having too much trouble with an infant patient, and the parent's "don't think it worth while to save them, they are only the first teeth," the little patient is very early in life, and prematurely, deprived of the greater number of its most useful teeth for mastication, and *gubernaculæ* of the second set. We are in the habit of advising parents to commence cleansing the teeth of their children as soon as they have any to clean. It is always true, that if a child's teeth are cleaned from their first eruption, it will behave as well the first time it is placed under the hands of the dentist, as an old patient.

We propose, at present, to confine our remarks to the front incisor teeth at the period of eruption of the second set, and will hereafter refer to the remaining number of the set. Cut No. 1, is a case where the superior front incisors make their appearance on the posterior parts of the deciduous set, yet the



space between the lateral incisors of the first set is not sufficient to let the front incisors of the second into the place of the first, as will be seen by reference to the drawing. Why this position or direction of the second set should occur, we know not, but we are sure that we can not do anything to prevent it. This condition of things always creates a great deal of alarm to parents, and they look to extraction as the only means of correcting the case, and, as a general thing, the dentist in the dilemma, adopts the practice, and frequently by extracting the four deciduous teeth instead of only two. When two teeth are extracted at the period of development illustrated in cut No. 1, the process of healing of the parts, draws the lateral incisors of the first set towards each other, and as the second set are too far back in the mouth to prevent it, the case is rendered much more difficult of future treatment, than had they been let alone.

If the four front incisors be extracted, the canines will approximate each other so much, as only to leave room for the permanent front incisors, and in this way the second laterals are thrown outside of the arch, either in the roof of the mouth, or over and in front of the space between the canines and the front incisors; but if the case be



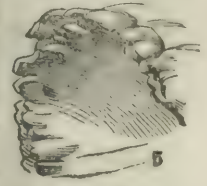
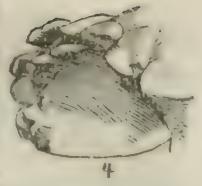
let alone, it will in time, assume the appearance exhibited by cast No. 2. It will be seen by this cut that the deciduous front incisors have projected forwards, and the space between the laterals has increased very much; the space was measured and found to be more than was needed

for the second front incisors without extracting the deciduous laterals. This case illustrates the false idea of obtaining room by extracting prematurely the first teeth in any case. We not only have the roots of the first teeth occupying the place, but the influence they exert in *inviting nutrition* to the parts to favor the growth of the gum and surrounding parts; in other words, it enlarges the arch to let them alone, and contracts it to extract them. When this case had gone on to that stage of development shown by the drawing No. 2, the first teeth were extracted, and an inclined plane put on the lower jaw to carry the superior front teeth forward to their proper places. This



was effected in two weeks, and by reference to cut No. 3, the case will be seen as properly treated, and more space for the permanent front incisors than is needed. The arch here is good, and will in all probability, present no further abnormal conditions.

Cut No. 4 presents a case where the inferior front incisors make their appearance behind the deciduous teeth, while they are still in close contact with each other. It is not unfrequent that these teeth erupt before the arch has undergone any enlargement whatever. In such cases, we are in the habit of letting them remain untouched until the space between the laterals has increased sufficiently to let the front ones in. This cut presents a case at six and a half years old, and at a little over seven years, it presented the development that is seen in cut No. 5. It will be seen that the front teeth of the first set project out as in cut No. 2 of the upper jaw. The same principle of treatment obtains, when the permanent front teeth are in their proper places, and the laterals are making their appearance behind the deciduous laterals.

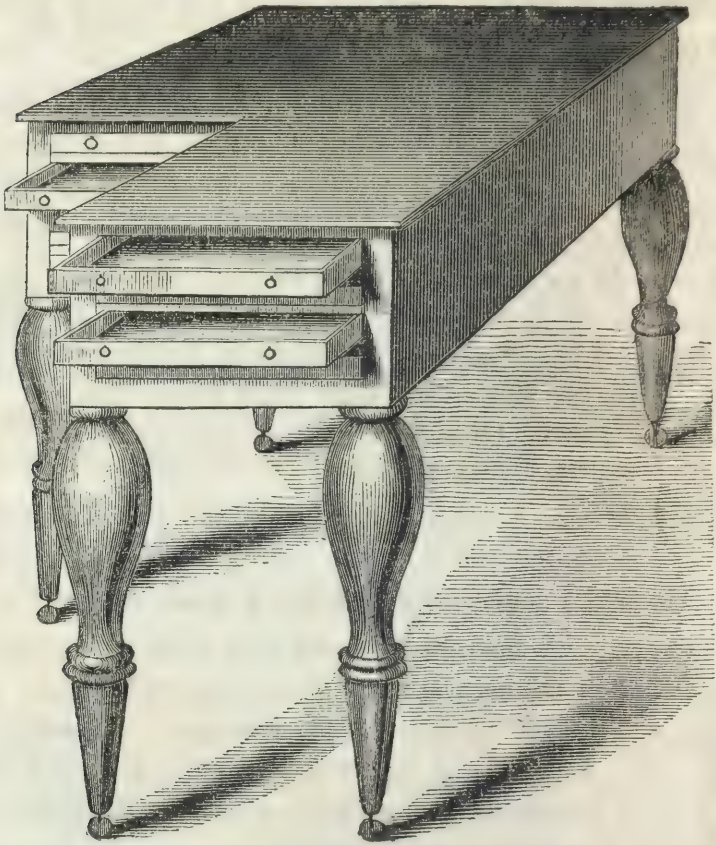


It is very frequently true that parents are very solicitous to have such teeth extracted, but it should not be done. It requires a little courage to resist their entreaties, but it is our duty not to extract a tooth until we know that we have sufficient space to accommodate the tooth which is to follow. We are frequently called upon to extract the roots of the front teeth long before the period of eruption of the second, merely because the crowns are decayed off, but this is seldom necessary; an occasional abscess is not a sufficient reason to take the risk of causing a permanent irregularity.

It sometimes happens that the extremities of the roots of the deciduous teeth project through the gums, and causes swelling and ulceration of the lips or cheek; it is not always necessary to extract such roots. If those projecting roots are cut off below the surface of the gum, they will generally heal over, and the rest of the root remain for years, without causing any trouble. We originated this operation several years ago, and have seen many happy results from it. A root will preserve the form of the jaw and prevent contraction as well as a whole tooth. Let the deciduous teeth and roots remain as long as possible, and watch the growth of the jaw, and much more may be learned than by extracting. We were in the habit, in our early practice, of taking casts of the apparent anomalies presented, and marking them and watching them from time to time, and it would be well for every dentist who has not the confidence in nature to correct herself, to adopt the same practice, until he verifies what we have been attempting to teach.

A DENTAL OPERATING TABLE.

DESIGNED BY C. T. CUSHMAN, D. D. S., COLUMBUS, GA.



Every dentist who values time, order and excellence in his operations, must appreciate any arrangement of his instruments, which shall bring them always *at hand*, within sight and within reach at every stage of his operations, without taking one step away from the side of his patient. This is particularly desirable in plugging teeth, as a loss of time in searching, might, in some instances, be fatal to complete success, by failing to preserve the stereotyped injunction to “keep dry.”

In 1847, I designed and made the instrument-table sketched above, which, after many years’ use, I can recommend as the most convenient for the purpose of any I have ever seen.

It can be made plain, and of common material, at a small cost ; of as neat and appropriate appearance as a piece of office furniture. Of finer wood and workmanship, it may be really elegant.

The operator standing within the L, can open all of the eight drawers, and see and get any instrument wanted therefrom, without removing his left hand from the patient’s mouth. A drawer may be appro-

priated each, to files, excavators, burrs, drills, pluggers, foil, scalers, forceps, and by divisions, separate different *classes*; also napkins, cotton—in short, every requisite appliance, arranged in such order as may be most familiar and convenient to the operator.

The top, covered with black velvet, and surrounded by a ledge, affords ample room for spreading them *before* the operator, without interfering with, or at all incommoding the sitter; also for water, glasses and other necessities. The following are the dimensions:—

Length of frame, (the top projecting over a little,)	3 ft. 2 in.
Whole width, (front,) - - - - -	2 “ 6 “
Width of longitudinal top, - - - - -	15½ “
Width of front wing, - - - - -	14 “
Height, (if you are tall, add to it,) - - -	2 ft. 7 “

I think that any dentist who shall try this operating-table will be well pleased with it.

For the Dental News Letter.

REMARKABLE SPECIMEN OF EXODONTOSIS.



EDITORS DENTAL NEWS LETTER—*Gents*:—Enclosed, you will find the drawings of quite a remarkable specimen of exodontosis. I extracted the tooth the 4th of July last; it was the second molar, left side of the inferior jaw. The gentleman for whom I extracted it, is a stout, healthy man of about thirty-five years. The tooth had been troubling him some five or six years, and several attempts had been made to extract it. The exostosed part, or the deposition of bone on the roots, was completely covered (with the exception of a slight opening immediately over what you will see was the decayed part) by a much thicker alveolar process than we usually see; I have the pieces which I cut away, in my possession now; the tooth itself is perfectly sound. I cut away what part of the gums I thought proper, and with a pair of surgeon's excising forceps, cut through the alveolar process, both sides, and extracted the tooth without further trouble.

You will see in figure 6, that the whole of the tooth, with the exception of the crown, is considerably enlarged. It stood inclined inward somewhat—most of the protuberance inside—and but little irregularity could be observed from the outside. The bony deposition is hard and compact. I have the tooth in my possession now, but shall probably before long, deposit it in the museum of some one of the Dental Colleges.

I consider it a very rare and a very fine specimen of exodontosis, and at present do not feel inclined to part with it. I thought it well

worthy the sending of a drawing of its different positions to you, to be inserted in the News Letter.* If your opinions are not different, you are at liberty to do so. Very truly, yours,

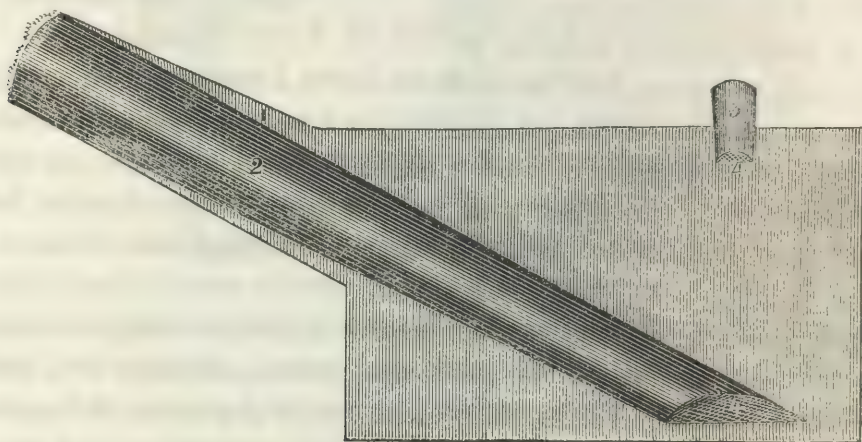
M. B. PATTERSON, *Dentist*.

St. Paul, Minnesota Territory.

For the Dental News Letter.

IMPROVEMENT ON SOLDERING LAMP.

MESSRS. EDITORS:—With diffidence I enclose you a few lines in reference to the explosion of alchohol lamps. It is the sad accidents that induces me to trouble you with a few lines, knowing that a hint to the practical dentist is sufficient. Many, like myself, are better able to make a little addition to their old lamp than to buy a new one. Some years since, my lamp exploded, scattering its contents and flame over whatever there was in its way, burning my curtain, carpet, &c., besides giving me a singing and a few blisters; although more scared than hurt, I promised that it should be the last one.



My preventive is simple, but it has proved a true Davy. I took a piece of tin and made a tube to put my wick in, (see sketch,) a little tapering, so that it would slide into my lamp tube easily, but fit tight at the flame end; the other end of the wick tube I cut diagonally or parallel with the bottom, and over the end I soldered a piece of brass wire cloth, the same the tinmen use in making milk strainers. I also put a piece of wire cloth over the lower end of my feeding tube, so that if a lighted match was carried over, it would not ignite from that direction.

If this hint should be worthy an insertion in your News Letter at any time, please do so; if not, put it under the table.

Yours, &c.,

J. D. ELLIOT.

Leicester, October 3, 1856.

* We have had but one cut made, as that sufficiently shows the extent of the deposit.—ED.

For the Dental News Letter.

REFINING GOLD.

EDITORS OF DENTAL NEWS LETTER—*Sirs*:—Among the numerous articles which have been placed before the members of the Dental profession, through the columns of the different periodicals specially devoted to their calling, it has not, as yet, been my good fortune to meet with a single article in reference to the subject which heads this communication, although all will admit, I think, that, so far as the mechanical part of Dentistry is concerned, there is no greater or more important item of information which a dentist *ought* and probably *desires* to know, than a thorough acquaintance with the metals which he is called every day of his practice, to make use of; and highest in the scale, not only of value intrinsically, but on account of the multiplicity of its adaptations to practical use, stands the precious metal, gold. Yet, notwithstanding the vast amount of this metal which enters into the practice, and is made use of by the members of our profession throughout our country, there is probably no one thing with which there has been so much trouble, as that of the preparation of this metal, as a base upon which to arrange and fasten dental substitutes, and this the more especially, in the case of dentists who are located in their practice at some distance from any person whose special business it is to prepare gold for the dentist's use, and who are therefore accustomed to prepare their plates at their own forge and rolling mill.

Such persons, of whom the writer *was* one, very often are sorely troubled and perplexed by the gold, when it comes from the "ingot," being very brittle, insomuch that, to perform the operation of laminating, were an absolute impossibility, and it is not until after repeated melting and treating with "muriate of ammonia," "nitrate of potash," cupellation and even digestion with acids, that it is possible to get it to such a degree of malleability that it can be reduced under the rollers, and sometimes, from the great quantity of foreign substances mingled with it, so tedious is the process, that even days are occupied in the operations, of course to the sacrifice of all other practice, as of necessity, the personal attention of the practitioner is requisite to attend to these different manipulations, as it would be folly to intrust them in the hands of an inexperienced student. These are some of the perplexities which harrass the village and country operators, and with which they are obliged to contend, in the preparation of their plates.

Now sirs, permit me, through the columns of your journal, to briefly describe a process which occurred to me, on reading a description of a

visit to the U. S. Assay office, which was published in one of the scientific periodicals some time since, and from which I have elaborated the following, which I have practiced with invariable success for some six or eight months, and which has been the means of procuring me the very best quality of plate, not to mention the great saving of labor, time and expense.

The method pursued, is this: I take my scraps, filings and whatever other gold I may have which I wish to refine, and melt them with twice their weight of common silver (coin) in an Hessian crucible; when they are in a fluid state, and intimately mixed, pour it from some height, say five or six feet, into a pail of cold water, by which means, the alloy of the two metals will be scattered or granulated into very small particles or thin scales. These fragments are now to be placed in a thin glass vessel, as a "florence flask" or "Beaker glass," on a sand bath, over a lamp or steady fire, and some commercial nitric acid poured upon it, which will cause a strong action to take place. The acid is to be kept in the vessel as long as there is any action to be observed, when it is to have more acid added, which is continued at short intervals, until the hot liquid shows signs of ebullition at the dropping of a pinch of silver filings into the same, when the vessel is to be allowed to remain a short time upon the bath, to be sure that the silver of the alloy and the other base metals and foreign substances have been taken up by the acid, when it is to be poured upon a filter placed in a glass funnel, and allowed to drain. The dark brown powder which remains upon the filter, is washed with rain water and dried upon a piece of sheet iron plate, when it can be melted in a crucible or in small portions upon charcoal rests beneath the blow-pipe. The resultant will be found to be "simon pure" gold, or, in other words, gold of twenty-four carats in fineness, which can then be reduced to the proper standard for plate, by alloying with silver and copper, and the gold thus obtained, will be found to be as malleable as lead almost, and yet retain the requisite stiffness for plate work.

The liquids which pass through the filter, should be collected in a glass tumbler or other vessel, and from which the silver, which is held in solution, or rather in chemical union with the acid, can be recovered by means of slips of metallic copper thrust into the liquid and stirred around; by which means, the silver, for which the acid has a less affinity than the copper, will be thrown down in a heavy flocculent precipitate, which is to be thrown upon another filter, and having been washed thoroughly with soft water, can be dried and melted into a button or bar, to be used as alloy for the gold, (for which it is much

more preferable than coin,) or retained to be again used to refine another batch of gold.

Hoping that the above may be of as great service to some others as it has been of use to me, I am sirs, yours,

J. CARROLL HOUSE.

Lowville, N. Y., September 13th, 1856.

The system of refining gold, as suggested in the above communication, is an old one—rather slow, but has the merit of being certain. In ordinary cases, however, and for ordinary dental purposes, much time may be saved by reducing the filings and clippings with *nitrate of potash* and leaving the whole in the crucible to cool; then in a fresh crucible re-melt, and while fluid, add *sal ammoniac*; after it is driven off by heat, pour the gold into the mould for rolling. This process, as a general thing, will work satisfactorily, but if the desire be to obtain pure gold, then the plan suggested by the writer, is probably the best that could be adopted.

M'C.

For the Dental News Letter.

GUTTA PERCHA AS A TEMPORARY FILLING.

MESSRS. EDITORS:—I have seen in your excellent journal (the News Letter) several articles upon the use of Slayton's gutta percha as a base for temporary sets artificial teeth. I would direct your attention, and the attention of the profession, to other uses to which it can be applied: the temporary filling of artificial teeth, capping of nerves, and as a protection to the bony structure of sensitive teeth in deep seated caries, when it is desirable to destroy that tendency by the application of arsenious paste. For the last named purpose, I consider it the best substance that has ever been applied. My mode of using is to dissolve a portion of gutta percha in chloroform, and after the cavity has been prepared and thoroughly dried, to apply a thin coating of gutta percha, with a small camel's hair pencil, to the bony structure nearest the nerve, thereby protecting the nerve from destruction by the absorption of the arsenic.

It is preferable to wax, because it adheres very firmly to the bony structure, and is not so liable to be misplaced. For capping nerves, I consider it preferable to metal of any kind. When cold, it is unyielding enough to protect the nerve from the pressure of the filling, and is less a conductor of heat and cold, and therefore less liable to give pain from those causes. As a temporary filling, I dissolve some of the gutta percha prepared for that purpose, in chloroform as before, and thoroughly incorporate with it as much of the ordinary body (the

base of artificial teeth) as possible, making a very thick amalgam, and applying when in that state. It is very easily applied, and by the evaporation of the chloroform, soon becomes solid, and is capable of a very good finish. I have filled several teeth with this substance temporarily, and they have done so well, that the patients have objected to their being re-filled. They have preserved their color so far, although it is but recently that I have been using it, (about seven months.) I make these suggestions, not that I advance anything new, but that the attention of the profession may be directed to the subject. I am persuaded that this substance can be used with great practical benefit. Yours, with respect, C. GIBSON LUM, *Dentist*.

Vicksburg, Miss.

We enter a disclaimer to all practice with non-conductors and caps.—ED.

For the Dental News Letter.

ON WORKING GUTTA PERCHA.

GENTLEMEN:—If you consider the following remarks of any worth, by way of suggestion to others, you may give them place in your journal.

The gentleman with whom I am connected in the practice of Dentistry, having procured some of Dr. Slayton's Gutta Percha, and also instructions for using the same, I was induced to experiment with it, and the following is the result:

For partial sets, where the teeth are much scattered, I thought that the half-round silver wire, as directed by Dr. Slayton, scarcely gave sufficient solidity. I spoke of this to a professional friend, who told me that he had found the same difficulty, and had tried a plate of considerable width, well perforated, so as to allow the gutta percha to be united from both sides. To accomplish this more thoroughly, he coated the plate, before applying the upper layer, with an ethereal solution of gutta percha.

At the first opportunity, I tried the plan as directed by my friend, using a plate about half an inch wide. I arranged my teeth just as if the plate were to be a clasped one, and soldered them on. After so doing, I moulded the gutta percha to the plaster model as directed by Dr. Slayton. Then I heated my plate and pressed it firmly down on the gutta percha, which was on the model, until it was forced through every perforation in the plate. Next I coated the exposed portion of the plate with an ethereal solution, and after letting it evaporate, I immersed the whole in hot water. Then replacing it carefully on the

model, I applied another layer of gutta percha as far as the plate extended, and proceeded to finish in the manner directed. In doing this, I found a great difficulty in keeping the piece clean, as the least heat above the requisite amount blackened the gutta percha. Thinking that steam would answer for softening as well as the flame of a lamp, I constructed a small boiler, which would hold about a couple of wineglasses of water, with a small tube leading from the mouth, for the purpose of furnishing a jet of steam. I now proceeded to finishing—using the beef bladder and flax-seed tea, exactly as Dr. S. directs, except that when any portion needed softening, I held it over the jet of steam, instead of a spirit lamp.

After rubbing it carefully down, I gave the whole a very thin coat of the etherial solution, which acts as a varnish, and greatly aids the finish. Again I rubbed it down *very lightly* with the beef bladder and flax-seed tea. The piece was now finished, strong and light enough for all reasonable purposes.

In this way, I think no one will find any difficulty in finishing a piece far more cleanly than by the use of a spirit lamp.

I remain yours respectfully,

JOHN F. KNIGHT.

Marion, Ala.

For the Dental News Letter.

NORTH CAROLINA DENTAL SOCIETY.

A meeting of the alumni, located in this State, of the Dental Colleges, was held in Raleigh, October 16th, 1856, for the purpose of consultation upon the means best adapted to advance the science, and the common interests and honor of the profession.

The meeting came to order by the appointment of a temporary President and Secretary.

On motion of Dr. Gregg, the chairman appointed a committee consisting of Drs. Howlet, Scott and Gregg, to draft resolutions for the organization and government of a State Society.

The meeting then adjourned to meet next morning at 9 o'clock.

FRIDAY MORNING, *October 17th.*

Met agreeably to adjournment.

Members present were Drs. W. F. Bason, T. W. Howlet, D. P. Gregg, R. P. Bessent, R. Scott, West Harris and D. W. C. Benbow.

After the reading of the minutes of last meeting, the committee reported their resolutions, which were unanimously adopted.

On motion of Dr. Gregg, permanent officers were elected as follows : For President, Dr. Bason, of Salisbury ; Vice President, Dr. Howlet, of Greensboro' ; Secretary, Dr. Benbow, of Fayetteville ; Treasurer, Dr. Bessent, of Concord ; and Drs. Gregg, of Greensboro', Scott, of Washington and Harris, of Pittsboro', the Examining Committee.

On motion of Dr. Scott, Dr. Perry, of Raleigh, was unanimously elected a member of this Society.

Dr. Gregg offered the following resolution, which was adopted :

Resolved, That the President shall have the power to call a meeting of this Society whenever he shall consider the interests of the profession demand it, or whenever requested in writing to do so by five members.

It was then *Resolved*, That a committee of three be appointed to revise the Constitution and prepare By-Laws for our government, and report at our next meeting.

That committee consisted of Drs. Scott, Gregg and Perry.

On motion of Dr. Howlet, three members were elected to prepare and read papers at our next session, viz : Drs. Bason, Bessent and Gregg.

On motion of Dr. Benbow, it was *Resolved*, That when we adjourn we adjourn to meet in Greensboro' on the first Wednesday in October next.

On motion of Dr. Gregg, the President appointed Drs. Benbow, Bessent and Scott, to represent this Society in the next American Dental Convention, to be held in Boston next August.

On motion of Dr. Scott, the President was added to the delegation.

The President hoped that other members of the Society might find it convenient to be there.

The Secretary was instructed to have published the proceedings of this Society.

After a few congratulatory remarks from Dr. Gregg, upon the kind feeling exhibited between the members of the profession, the meeting adjourned to meet in Greensboro' the first Wednesday in October, 1857.

W. F. BASON, *President*.

D. W. C. BENBOW, *Secretary*.

Toothless.—A Mr. W—— recently died in this place, at an advanced age, who never had a tooth. His gums were very hard, and much resembled those of a cat-fish. If you think proper, you may publish the above case ; I don't recollect of seeing one of the kind on record.

H. A. B.

Union, Va., September 15, 1856.

THE DENTAL NEWS LETTER.

JANUARY, 1857.

CONDENSATION OF GOLD.

We commenced the investigation of this subject, in order to arrive, if possible, at some estimate of the amount of labor it required, or at least was generally employed, in plugging a tooth. We have tested the different thicknesses of gold foil, from No. 4 to No. 50, rolled gold ; many of the experiments we have already published. We have not endeavored to demonstrate how compact the different kinds of gold can possibly be made by any great amount of pressure, such as by rolling, or plugging in a vice ; but with that limited amount to which we are confined in the mouth. Still we have, in such experiments, run a little higher, as a general thing, than is, under all circumstances, obtained when operating in the mouth. The kind of gold that will attain the greatest density at that pressure, is of the most importance to us. A very slight pressure comparatively, renders some kinds of gold *resisting*, but not *dense*, and the relative weights of plugs made of different kinds of gold, under similar circumstances, is all that can be of use to us, and all that we have aimed at.

Where we cannot venture great pressure, we have come to the conclusion that No. 4 is the best ; but requires more time in packing than heavier gold. No. 6 or 8 makes a stronger plug, but requires more hard pressure to obtain the same density or weight of the same sized plug. When gold is prepared thinner than No. 4, it becomes too flimsy for use. This form of gold, rolled into cylinders, requires the least pressure of any other. The rope is handled with the greatest facility, as far as our faculties for manipulating is concerned. We modify our gold to suit circumstances, either cylinder, rope or tape.

The following experiment, in our dynamometer, with adhesive or annealed gold, No. 6, was made in comparison to the same gold unannealed. Annealed gold, eighty strokes of the instrument ; none noted below eight pounds, and the highest ranged twenty-eight ; aggregate amount of pressure, sixteen hundred and twenty. Second experiment, seventy-two strokes of the instrument ; lowest pressure noted, eight pounds ; highest, twenty-four ; aggregate amount, twelve

hundred and ninety. This last plug was made wet, and although there was much less aggregate pressure, the plug was much heavier; the adhesive gold annealed, clogged in packing, and pressure over the surface loosened it from the walls of the ingot.

We are not willing yet to abandon the old way of using gold foil, though perhaps annealing, as it is used, favors manipulating with it in some cases; but adhesiveness with us prevents condensation, and to depend upon one part adhering to another, makes us depend less upon the shape of the cavity, and if the adhesion is not perfect, the plug is defective; at least we have seen plugs lost on that account, and we have removed plugs that had been put in in that way that separated very readily in such pieces—it had been put in the cavity. It is to us more difficult to keep the plug sufficiently dry, than to make a good plug without depending on the adhesive property of the gold.

We have given our experiments for what they are worth, with as little comment as possible, on account of the fact that many able operators are reducing the different preparations of gold, and methods of using it, to rigid tests of practice, which time alone will conclusively decide.

J. D. W.

A NEW METHOD OF USING GOLD FOIL WITH IMPROVED INSTRUMENTS.

A friend of ours, Dr. C. C. W., sent us a case for examination, some time since, of the greatest importance to the whole profession. It consisted of two large gold plugs, one in the anterior surface of the right superior bicuspid, and the posterior surface of the adjoining canine. The patient was a youngish man, of general good health, and lived in a warm climate. These teeth had been plugged about eight years; the plugs were very hard and the teeth in a good state of preservation. The operator was a gentleman who had a great deal of experience in doing nothing. The gold was in the form of foil, and had been prepared with the greatest care for the purpose of gilding picture frames. The excavators employed were not a very great improvement over those now in use; but the plugger—as he used but one,—differed very widely from those now in use—it was a large *ten-penny nail*!

J. D. W.

Errata.—In our last number some errors occurred which were not observed in time for correction. On page 89, sixteenth line from top, read *vis á tergo*, and on page 90, fourteenth line from top, after the word “dislocation,” add “or spasm,” as in colic.

M'C.

The Increase in the Subscription Price of our Journal, which was noticed in our last July issue, has been overlooked by many in remitting for the present volume. This may be owing partly to our neglect to correct the price on the cover. That correction has now been made, and the price, viz: "one dollar and fifty cents per year," plainly set forth. M'C.

Dr. Allen's Patent.—A trial for infringement of this patent, was had in New York last November, which resulted in a verdict for defendant. The Judge, in his charge, ruled, that the patent claimed that practicable work could be made without back plates, and consequently as the defendant had made use of back plates or linings, there was no infringement on this point. We are told, that "the validity of the patent was not affected by this trial." M'C.

"*The Dental Register of the West*" has changed hands, Drs. Taft & Watt succeeding Dr. James Taylor, who was its editor for nine years, and under whose management it has rendered good service to the cause. To the present editors, we wish abundant success in their new enterprise, with as few of the annoyances incident to their position as is possible.

The improvements in the mechanical department of this Journal, under the new régime, are very marked, and it now presents a very beautiful appearance. Success to it. M'C.

On Cover will be found an advertisement of the new plate punch, designed for punching both holes in the lining or stay plate at once, with perfect accuracy. We have reason to suppose this will prove a valuable addition to the laboratory.

There will also be found an advertisement of Dr. White's Tooth Powder. This preparation we have been using for years with perfect satisfaction, and to those wishing a superior article, we can confidently recommend this very pleasant compound. M'C.

State Societies.—In our pages will be found the proceedings of the "North Carolina Dental Society." We are glad to see these organizations increasing, as they must be productive of great good socially and professionally; and thus believing, have repeatedly urged the establishment of not only *State*, but *County* organizations in the more populous districts. By the way, what has become of the New York State Society we heard about in the Convention last August? Will some one inform us of its condition and prospects? M'C.

EXTRACTS FROM THE DENTAL PERIODICALS.

BY J. R. M'C.

American Journal of Dental Science, July, 1856.—In this number we find an article entitled “Professional Qualifications for Dental Tyros,” which we are induced to quote from, for some thoughts it contains on a subject we have always considered of much importance, viz: The proper position which *mechanical dentistry*, as it is technically termed, should occupy in the profession of dentistry.

We have no sympathy with the *semi-half-hearted* acknowledgment generally given to this branch; believing that it is not duly respected nor properly appreciated, and therefore not sufficiently encouraged; and we have pitied those who, when brought to speak of it, have done so deprecatingly and with sneers.

After alluding to the many who come into the ranks of the profession, wholly unfitted by natural abilities, or unprepared by study, and whose aspirations are greatly above their capacities, the writer says:

“It is by such hybrid characters, that the profession is pressed down, that the mass is degraded, and the calling a doubtful cognomen among strangers. It is these individuals who decry a branch of the profession, and attribute to it a deteriorating influence, forgetting that this very department has achieved, through the labor and toil of skillful men, a perfection that is attained in no other science or art. Eminently honorable, because useful; most artistic, because it restores to nature its lost beauty; elevating, because in reaching its perfection, it embraces in its study all the influences acting upon the mind and heart developed in the countenance, whose entire restoration is in its domain and whose fundamental law is harmony. True, they do not perceive these facts, but are they any the more wanting? Surgery amputates a limb, but does not restore one; operative dentistry prevents disease from going further, but does not recover the lost form or appearance of the tooth; medicine sometimes through analogy prevents death, a point yielded only through courtesy, as positive proof must be forever wanting to establish the fact. The supply of almost all human wants is only in a measure complete, still to be improved and added to, but mechanical dentistry, in the hands of honorable skill, reaches a perfection beyond all. In the first place, the usefulness of some artificial teeth is as complete as the natural organs, so perfectly adapted as often to dispel from the mind of the patient, in many cases, the consciousness of their presence; so completely harmonizing with the complexion, so conformable in shape to the countenance, as to leave no point of detection, no discrepancy. The lines and rotundity of youth are restored, the mouth regaining its wonted expression. Its function recovered to the great advantage of the whole economy of the body. replete with beauty and usefulness.

“Little men, and *sometimes* those fortunate in worldly possessions, deery this branch to the preference of the other; the first, because their conceptions of its requirements, through ignorance, are absolutely at fault, being incapacitated to embrace the knowledge and means necessary to be acquired to strike at perfection, they fail repeatedly, and denounce their own errors and incapability in abusing a branch of the profession entirely out of their reach. The second decline its practice, because it involves labor and toil much greater than in the operation of filling teeth; because the responsibilities are incomparably greater; because the consequences of the two departments are entirely different. In the one there is never ceasing requirement of perfection, not only from the patient, but from the community in which they reside, with a certainty of exposure and condemnation if a fault be committed, or in the result of failure. In the other, there is an analogy between its practice and the errors of an unfortunate physician who buries all his prescriptions with his patients. A good or bad filling is covered by years of entire concealment and absolute forgetfulness, and this occurs in almost all cases. The community of friends of the patient are absolutely excluded from all possible means of judging of the merits or demerits of the case, except as the grace of manner of the operator has impressed the patient, this being of necessity the only topic upon which either can decide. The one has to do with one material only, and that prepared by others, whose use involves time, ranging from thirty minutes to three hours, when the fee is received and the matter forgotten by all, at least for years. The other involves the employment of the arts and sciences, in the moulding of the most numerous and intricate substances into intelligent shapes and suitable compounds, whose manipulation requires weeks and months of labor. The great trouble is found in the intense difficulties to be encountered on the one hand and the comparative simplicity on the other. In the magnitude of the responsibility and publicity in one; the unavoidable obscurity and inobservant character of the other. The manipulations so delicate, are still made in pungent, blackening chemicals, earths, metals, gums, &c., of the laboratory, the toil and burning heat of which, though resolutely endured, are not, in their nature, always successful. Those of the operating room are performed without contact with materials, whose use there is any room to doubt or to discover or prepare; their easy labors are performed over a beaten course, whose result is the same one day as another, and whose pecuniary success depends in a great measure on personal accomplishment.

“We do not wish to detract from the skill and dexterity required in operating, or intend to give the idea that little is required in this department, for there is abundant proof of its imperfect accomplishment in the fact, that perhaps half the operations performed are entire failures, the remaining half being protected by doubt and simplicity.”

In a paper on “Metallic dies; by Professor Austen,” we find the following tables, which impart a vast amount of information in a very limited space, and which must prove useful to every practitioner:

“From the various tables alluded to, we find the average contraction

of the 10 following metals and alloys, between the boiling and the freezing points of water, to be for

Platinum, . . . . .	.00091	Gun Metal, . . . . .	.00182
Antimony, . . . . .	.00108	Brass, . . . . .	.00191
Cast Iron, . . . . .	.00111	Tin, . . . . .	.00236
Bismuth, . . . . .	.00139	Lead, . . . . .	.00285
Copper, . . . . .	.00180	Zinc, . . . . .	.00298

“An examination of this table, and comparison with the following one, gives us some interesting facts.

* * * * *

	Melting Point.	Contractility.	Hardness	Brittleness.
1 Copper,	2000°	.02236	.020	1
2 Brass 2 C—1 Z,*	1870°	.02216	.024	2
3 Zinc,	770°	.01366	.018	5
4 1292 Z—579 tin,	660°	.01233	.024	4
5 Lead,	600°	.01066	.138	1
6 5 type metal 5 L—1 A,	500°	.00633	.045	10
7 Tin,	440°	.00633	.054	1
8 2 L—1 T,	440°	.00633	.050	3
9 1 L—2 T,	340°	.00500	.040	3
10 2 L—3 T—1 A,	420°	.00433	.026	7
11 5 L—6 T—1 A,	320°	.00566	.035	6
12 5 L—6 T—1 A—3 B,	300°	.00266	.030	9
13 1 L—1 T—1 B,	250°	.00066	.042	7
14 1 L—1 T—1 B,	250°	.00066	.035	6
15 5 L—3 T—8 B,	200°	.00200	.045	8
16 2 L—1 T—3 B,	200°	.00133	.048	7

“The last column contains an approximate estimate of the relative brittleness of the 16 samples given. As in the other columns, the low numbers represent the metals, so far as this property is concerned, most desirable. Those marked below 5 are malleable metals; those above 5 are brittle; zinc, marked 5, separates these two classes and belongs to one or the other, according to the way in which it is managed. Melted and poured into a shallow mould, it may be broken. Even in the more compact form of a well shaped die it is possible by undue violence to crack it; an accident the liability to which is necessarily increased, when the die is made too shallow or too flaring. Meeting with some such vexatious accident, one might well ask, taking in hand a piece of sheet zinc and bending it in any direction, if these two can be one and the same metal. The only difference is that sheet zinc is annealed zinc. By annealing zinc, we take it out of the class of brittle metals, and fit it for the mal-practice of the most unskillful operator; not meaning to say that the most skillful may not at times gladly avail himself of the change.”

Dental Register of the West, July, 1856.—In an “Introductory Lecture on Dental Chemistry, by Geo. Watt,” in which the subject is ably though concisely treated, we make the following extracts.

After a general view of chemistry, he says:

“Let us, then, for a short time, consider its relation to, and its influence on, the science of our own profession. And here you will

* The initials of the English names of the respective metals are used, as, C for copper; Z for zinc; A for antimony; B for bismuth, etc.

allow me to premise, in the language of another of your professors, 'that it has done more to develope and advance dental science than any other agency.' Before its dawn, the nature, and of course the treatment, of the principal diseases of the dental organs were veiled in darkness and mystery. Even dental caries was supposed, by men of undoubted ability, to be produced, as that in other bones, by internal inflammation. This science teaches us that it always results from external chemical action; it detects the causes, demonstrates their action, defines their origin, suggests the remedies, and prepares them to our hand. And in the selection of materials to fill the cavities of decay, and restore the contour of the tooth, it manifests no sordid meanness; but directs us to those noble and indestructible metals, gold and platinum, discarding the whole category of alloys, amalgams, mineral pastes, etc., which none but the unprincipled, and those ignorant of the fundamental truths of this science, ever think of using.

"This science teaches the dental surgeon the precise condition of the various secretions with which he is concerned, their deleterious influence when abnormal, and points out and prepares the appropriate remedial measures.

"The same science selects the most suitable and only fit materials for artificial basis—prepares them for the mechanical dentist, and instructs him how to use them. It rejects the dead human, animal and ivory teeth; and, from the bowels of the earth, brings up the flinty rocks, and the metallic oxyds, and from their combinations, manufactures the pearly gem, surpassed only by the Creator's gift, the living teeth.

"But it is needless to specify. A correct knowledge of chemistry will guide you safely in the paths of dental truth; while those who neglect her teachings, or spurn her advice, are left to grope their way through bogs of ignorance, prejudice and error."

And again:

"While going over the laws of combination, the doctrine of affinity, nomenclature, etc., the student sometimes inquires, 'What has this to do with *Dental Chemistry*?' The commercial student might with equal propriety make a similar inquiry in regard to the primary rules of arithmetic, by asking, 'What has this to do with accounts?'"

The last paragraph of the "*introductory*," for the very summary and peculiar style adopted for bringing about a "general introduction," we also give.

"And now, gentlemen, we will close these remarks. They are few; but as they are thrown together without much system, you will agree that you have enough of the sort. The ice is now broken. You have seen me, and I have looked at you. Consider yourselves acquainted, and I shall do the same. When we meet to-morrow, we will take up the subject of *HEAT*; and though it is sometimes considered a *dry* subject, we hope you will all become *warm* in the cause."

In an article on "*Gutta Percha Gums*," we find the following statement made, which we notice only for the purpose of correcting the

error, and, in justice to the publishers, we here say, that so far as they are concerned, there is no basis whatever for such an assertion.

“Even Slayton’s make was at first *partially* purified; but at present it is so impure as to be quite unlike the original; and the manufacturers of it *acknowledge that the competition in price prevented them from making it after Slayton’s original formula*. If that statement be true, and if one hundred per cent. be profitable, they betray a good deal of ignorance in manufacturing, even the present impure article.”

In a paper “On the use of Amalgams for Filling Teeth, by E. Osmond,” we find some theories advanced, which, for their novelty, we quote:

“As when two metals, one of them having a greater affinity for oxygen, or a corroding agent, than the other, are brought into contact, and exposed to the action of fluid, possessed of even a very small degree of acidity, galvanic action is produced; it follows, that in fillings of this kind, it must necessarily occur, and this will inevitably decompose any saline substance which may be present in solution in the fluids of the mouth.

“Thus, chloride of sodium, which is an article of daily use, and also exists in healthy saliva, will necessarily be decomposed by such action, and the chlorine being liberated, will, whilst in a nascent condition, unite with the mercury of the amalgam, and in consequence of its well known tendency to unite with it in such proportions as will form corrosive sublimate, dangerous constitutional symptoms may be produced in consequence of the solubility of that salt.

“Now it is urged by some, that the mercury is in chemical combination with the other metals. Admitting this to be the case, it is also certain that loose mercury is present, waiting to be set free in the form of vapor, or to unite with any free acid in the mouth, for which it has an affinity, and so to become the positive pole of a galvanic battery.

“Further, it is well known that all alloys have a greater tendency to oxydize than single metals, and amalgams possess this in a marked degree. For example: expose a looking glass, the back of which is coated with amalgam, to the action of gases in a damp atmosphere, and how soon will it be observed to lose its reflecting power, and become tarnished by streaks of oxyde between the surface of the glass, and that of the amalgam next to it. How then can we expect it to resist the action of the saline fluids, and gases of the mouth? and is it any wonder that the oxydation goes on as well upon its internal surface as upon its external one?

“Hence, as the mercury is removed from the amalgam, the surface of the plug assumes a dark color, and as the action of the chlorine extends its influence along the borders of the cavity, it is slowly, and surely, according to the state of the buccal fluids, removed from the internal surface of the filling, leaving it also as black as the external surface, and the walls of the cavity exposed to the action of the retained, and consequently vitiated fluids of the mouth.

“Now let us suppose the mercury all removed by the above process, and what have we left? A plug lessened in size, and acid fluids around it, the dentine has become the positive pole of the battery, and

the plug the negative. As a consequence, the dentine is rapidly dissolved by the acid fluids contained between it and the plug.

"In proof of this position, we have only to look at the fact, that when a plug of any description becomes loose or porous, or from want of cleanliness, the surface of a tooth, in contact with a filling, is suffered to retain acid fluids, in contact with both, galvanic action is produced, and the destruction of dentine frequently goes on more rapidly than before a filling was introduced.

"Further, the presence of a metal is not necessary to the production of galvanic action; for, when two conducting bodies, whose affinity for a corroding agent is different, are placed in contact, it is produced, and this seems to account for the great destruction of dentine, which is found beneath very minute holes in the enamel, and which is particularly observable in caries of the central depressions of the crowns of the molar teeth.

"In such cases the dentine seems to be the positive pole, being more easily acted upon than the enamel, and in this manner protects the latter, to some extent, from the action of the corroding agent.

"Hitherto I have only alluded to the action of chlorine in a nascent condition, but when it has no substance to unite with in that condition, hydrochloric acid is produced at the expense of the water of the saliva, and dissolves the dentine around a plug with rapidity. We have also the septic acid, acetic acid, and others, which are well known to possess the power of destroying the integrity of the enamel and dentine when applied to them directly, or when liberated from salts which contain them.

"It is contended by some, that an amalgam plug never shrinks, and that in certain cases it does not become loose. Well, admitting this to be so, for argument sake, I shall proceed to show, that shrinkage, in its common acceptation, is not necessary to cause oxydation of the internal surface of a filling, for as the mercury finds its way out of it, it is left of a porous texture, more or less, and, consequently, as the ends of the minute pores through which the mercury passes are presented to the walls of the cavity, it retains its position there until the destruction of the dentine around causes it to become loose. This spongy texture is easily observed in the oxyde upon its internal surface."

From an interesting paper on the "Preparation of the Mouth for Artificial Teeth, by H. R. Smith, D. D. S., M. D.," we make the following extracts, regretting we are unable to give the paper entire. After some remarks on the importance of the subject, he says:

"It has been asserted by the "anti-artificial" dentist, that a jeweller, or any other good worker in metals, could make a dental substitute. Such may be the case, so far as outward appearances are concerned, but the "goodness" of an operation does not depend on that alone, but on the permanent value to the patient. And to insure that result, more than a knowledge of mechanics is necessary.

"First, an intimate knowledge of chemistry is necessary, in order to understand the chemical action constantly going on in the mouth, which, by changing the fluids and particles of food, may destroy the

natural teeth and membranes. And secondly, what action is produced when a metal is brought into connection with the teeth and these fluids.

“A knowledge of anatomy and physiology is necessary in order to know the form of parts involved, and the changes which take place, from time to time, in the alveola and surrounding parts; and of pathology and therapeutics, to understand what the changes are which are produced by disease, and what remedial agents may be brought to bear to restore the parts to health.”

After deprecating the haste with which artificial teeth are made to supply the loss of the natural ones, and the improper haste in dental operations generally, which is often the result of cupidity on the part of the operator, or over-anxiety on that of the patient, he suggests that failures in such practices need occasion no wonder, and then enters his protest against the custom of immediate insertion of temporary teeth, as follows :

“It is a practice amongst very many of our first operators to insert what are termed temporary sets of artificial teeth, almost immediately after the teeth have been extracted. It is a practice which, under ordinary circumstances, I must protest against, for this reason: first, because there has been before, and will necessarily be after extraction, irritation or inflammation in the gums and alveola, and around the natural teeth, if there are any. At this time acid and irritating matter is secreted, and the dental substitute will, if inserted, instead of lessening the irritation, tend to increase it. Galvanic action will be produced and evil results follow.

“Another reason against temporary substitutes is this. When the work is inserted, it must of course fit the gums over alveola before they are absorbed. The pressure of the plate keeps the alveola adapted to it during the absorption to a certain extent, leaving them in a very uneven and irregular shape. Again, as the alveola settles, the plate has an unequal pressure on some parts of the mouth, thereby keeping up a constant irritation.”

And again :

“If there are any teeth which I propose to leave, I see that they are freed from all salivary calculus and foreign matter. Then I proceed to extract all decayed teeth and roots that cannot be saved by plugging. After the bleeding has subsided, I remove all speculas of the alveola that would irritate the gums. As this part of the alveola would in time absorb, it is better to remove it at once by instruments, and thereby hasten the process of nature. The gums are more comfortable and heal more rapidly and in better form. This I should invariably do in preparing for full sets. For, unless they are removed, as the gums shrink away they project through the gums, keeping them sore for a long time.

“The teeth all being extracted, if I find any other portion of the gums inflamed where the bleeding did not occur, I would bleed freely by the lance or leech, rubbing the gums briskly with the finger to

facilitate the bleeding. After the gums have bled sufficiently to satisfy me, I rinse the mouth with a solution of tannin in water, which will arrest the flow of blood immediately.

"This will constitute all of my operations during the first visit of my patient.

"I next prepare a tonic and astringent wash, composed of tinc. myrrh, cinchonia, opium and orris root, to be used with water daily for some time, to keep up a tonic action in the mouth and keep down any traces of ulceration.

"If there is any effect of salivation remaining, I also give them in addition a small solution of chloride of soda, to counteract the effects of the mercury.

"With the above I recommend a constant use of tooth soap and powder to cleanse the mouth and teeth, with strict injunctions to be faithful in their use.

"The above I always furnish my patients; for if I do not, they are apt to neglect getting them, either from expense or carelessness. But if once they have them, they will generally use them according to directions.

"I now dismiss my patients and direct them to call again in a few days.

"At the next visit I remove any remaining traces of calculus, and polish the teeth when it is needed, and if there is any inflammation existing I bleed the gums again, freely, and continue the lotions. As soon as all traces of inflammation are gone, I then proceed to plug the teeth if they need it.

"After this treatment, the remaining teeth are less liable to be sensitive than they would have been if plugged during the first operation, and more certain to be preserved by plugging. The directions to the patient should be strongly insisted upon with the reasons for so doing, otherwise they are liable to be neglected and the dentist will lose the honor of succeeding in his operations. For whatever the result may be, the patient will take no blame on himself; therefore the dentist cannot be too strenuous in having his directions carried out.

"The time necessary for the patient to wait before the substitute is inserted, will depend upon circumstances. For a temporary set at least one month, and for the permanent partial set not less than three, and full sets not less than eight months.

"A very good guide in most cases is to wait until the furrow in the gum over the alveolar ridge is entirely obliterated before the substitute is inserted."

Dental Register of the West, October, 1856.—This number opens with a very logical "Essay on the action of Topical Remedies on Inflamed Dentine, by George Watt," which paper we had the pleasure of hearing read before the American Dental Convention, in August last. We esteem it a very able paper, and our regret is that our limited space will not permit us to give it entire. We must con-

tent ourselves therefore with the following extract, being persuaded at the same time that we are not doing the author full justice, but it is the best our means allow :

“That we may have a clear understanding of this point, let us briefly notice two or three different conditions of the dentine, which may require treatment. Take, for example, a tooth in which the whole body of dentine is inflamed, or at least has exalted sensibility. Now, it is evident, that cutting out the sensitive portion is not the plan for this case; for layer after layer may be removed, till the central cavity is reached, and the sensibility may be increased during the entire operation. The patient is therefore tortured to the limit of endurance, while nothing is gained. Nor is the sensibility immediately relieved by the influence of a remedy whose action is limited to the surface; for when the vitality of a superficial layer is thus destroyed, an attempt to remove it demonstrates the fact that the sensibility of the subjacent parts is in no degree diminished, but rather increased. The sensibility in this case, however, may be promptly and totally subdued by an escharotic, which, from its *modus operandi*, is capable of exerting its action on the deep-seated, as well as on the superficial parts; and those who wish to resort to this mode, will find arsenious acid all they could desire. This course, however, seems to us much like that of the woman who strangled her bed-ridden husband, by way of ‘helping to ease his misery.’

“The course we prefer, in such a case, is the application of an agent which produces an insoluble and permanent compound with the gelatinous portion of the tooth, thus preserving the parts beneath from the influence of irritating agents, till the case has time to terminate in resolution. This protection should be rendered more complete by the insertion of a soft filling into the cavity, and the termination may be much facilitated by constitutional treatment

“In other cases, the exalted sensibility may be confined to the surface of the carious cavity. In such, agents which exert a prompt, yet superficial action, will accomplish all that is desired. The selection will depend somewhat on the circumstances of the case, and will be better understood, after the consideration of the individual remedies.

“In some cases, the inflammation is confined to one or more minute points in the cavity. Then the sharp cutting instrument is often sufficient to overcome the difficulty. When it is not, the treatment suggested for the preceding case may be resorted to.

“In considering the individual remedies for inflamed dentine, we do not propose to notice all that have been, or that may be used to advantage, but only a number sufficient to accomplish the various actions indicated, and to meet the ordinary demands of practice. We will not attempt a classification; for, in the limited number under consideration, nothing could be gained by it.”

The first that we will notice is

“**TANNIN OR TANNIC ACID.**—Tannic acid is the active principle of vegetable astringents, and is found more abundant in nut-galls than in any other product. It manifests strong affinities; it is soluble in water and alcohol, and slightly so in ether; it unites with albumen,

fibrin and gelatin, forming with them insoluble tannates. It thus enables us to detect gelatin when dissolved in several thousand times its weight of water. Its medicinal action is almost necessarily topical; for the promptness of its action on, and the insolubility of its compounds with albuminous substances, prevents its admission into the general circulation. And this is the sole reason that the vegetable astringents are comparatively mild and innocuous in their action; for a single grain of tannin, if conveyed directly into the blood, would cause instant death.

"The action of tannin on dentine has been already explained. Either its watery or alcoholic solution may be used; the latter is the most convenient in some respects, as the former suffers decomposition by the absorption of oxygen from the atmosphere."

"KREASOTE OR CARBOLIC ACID.—This agent produces its caustic effects by its affinity for albumen and gelatin; and its antiseptic influence arises from the fact that it forms with these substances insoluble compounds.

"The kreasote of former years was obtained from wood-tar; and in some respects it differs from that in present use, which is prepared from coal-tar. The latter is the genuine carbolic acid. Its medicinal effects are the same as those of the wood-tar kreasote, while it is not so unpleasant. It dissolves freely in alcohol and ether, and sparingly in water. Its action may therefore be modified by dilution.

"The action of kreasote on dentine has been already explained; and, from its *modus operandi*, it is evident that the popular opinion that it promotes the decay of the teeth is an error. Its other uses do not fall within the range of this paper."

"NITRATE OF SILVER.—This salt is a powerful caustic, whether applied to the soft parts or to the bony tissues. Its action is somewhat complex. Dr. Turner imputes its escharotic power to the action of the nitric acid which is liberated by the decomposition of the salt in contact with organic matter. This, however, explains but a part of the process; for the salt seems to have a strong affinity for albumen, and unites with it without undergoing decomposition, in the proportion, according to Lassaigne, of 84.5 of albumen to 15.5 of the salt. This compound is soluble in a solution of nitrate of silver, or of chloride of sodium.

"When the nitrate is applied to the skin, the immediate result is a whitish mark, caused by the union of the salt with the albumen of the cuticle. This soon becomes black, by the decomposition of the salt and the reduction of the oxyd of silver. It is evident, then, that for each atom of silver set free, an equivalent of nitric acid is liberated. With these facts before us, we will be able to understand its action on dentine.

"Let us then bear in mind, that we have an agent here which acts promptly on the gelatinous portion of the tooth, destroying its vitality to the extent of the combination which takes place; and that by the decomposition of a part of the salt, and the consequent liberation of a part of its acid, it acts also with energy on the calcareous portion.

"The compound formed by the nitrate with the organic constituents of the tooth is insoluble, except in a few substances, and therefore

protects the subjacent parts, as mentioned in speaking of tannin. The precipitation of the reduced oxyd on the surface affords some additional protection.

"The insolubility of the compound above-mentioned, prevents the absorption of the nitrate by the dentine, and renders its action necessarily superficial. It is not true, then, that its application endangers the pulp, unless the intervening portion of dentine be so thin that it is all required in the chemical union which takes place between it and the remedy; but it is true that its judicious application adds to the safety of the pulp, by relieving the inflammation of the dentine, which might, otherwise, be extended to it.

"When the nitrate is neutralized, by an equivalent of the constituents of the dentine uniting with it, no farther chemical action can ensue; but it should be borne in mind that the compound formed by its union with the organic portion of the tooth is soluble in a solution of the nitrate. By applying it in too great a quantity, or too frequently, there may be a greater loss of substance than is desirable or at all necessary; for as long as free nitrate remains in solution in the cavity, the insoluble compound is not precipitated, and the surface is therefore exposed to its continued action. This constitutes a great practical difference between its action and that of tannin; for we have seen that, however much of the latter may be present, but a small quantity of it has the opportunity of producing chemical action.

"The compound of the nitrate with the organic constituents of the tooth is soluble also in chloride of sodium; hence, when the fluids of the mouth abound in this salt, the nitrate does not afford that protection to the subjacent dentine which may be obtained by some other escharotics; and in any mouth, the protection is inefficient, if the surface be exposed to contact with food seasoned with the chloride.

"In view of the above facts, we prefer to use the nitrate in the solid state; and when this is not practicable, we use a concentrated solution in small quantity, in preference to repeated applications of a dilute one.

"In consideration of the caustic energy of the nitrate, as compared with that of arsenic—knowing that the latter is often absorbed and destroys the vitality of the tooth, many fear that the pulp is alike endangered from its use. From the remarks already made, we think it is plain that their fears are groundless. We will add, however, that all authorities we have been able to consult, agree that it is not absorbed, even when applied to the soft parts, but that its action is *necessarily* confined to the surface. And farther: in acute cases of poisoning, by its internal use, there is seldom—perhaps never—any evidence of its absorption.

"The subjacent portion of dentine is generally less healthy after the application of the nitrate than after the use of a proper chloride; but, if properly used, the destruction of dentine will be less with the former than with the latter.

"With a clear understanding of the *modus operandi* of the nitrate, the practitioner will be at no loss in regard to the cases demanding its use. It acts to a greater depth than tannin, or kreasote, but not so

deep as chloride of zinc, nor does it produce so much pain. Of its action on the soft tissues, we have nothing to say in this paper.

“CHLORIDE OF ZINC.—The chloride of zinc is, perhaps, more frequently applied to dentine than any other caustic. From its *modus operandi*, it exerts an antiseptic and disinfectant, as well as escharotic influence. Its principal action is on the animal portion of the dentine; yet, as already seen, a part of it is decomposed, and the liberated chlorine may act on the calcareous salts. As its caustic power depends, in part, on its affinity for water, it is milder in solution than in substance; and its action is, consequently, more superficial and less painful. It is soluble in water, alcohol, ether and chloroform. The ethereal and chloroformal solutions produce far less pain than the chloride in substance. This might be readily expected—its affinity for water being thus overcome, it exerts but a part of its caustic power. Its union with the gelatinous portion of the tooth is also more prompt when thus dissolved; and this may, in part, explain the diminution of pain arising from its application; as the ethereal solution of terchloride of gold, which is yet more prompt, causes still less pain. On the same principle, the actual cautery, when very hot, causes less pain and irritation than when of a lower temperature. The ether or chloroform may, however, act directly in lessening the pain by local *anæsthesia*.

“In using the chloride, or any other active caustic, it is important to remember the exalted vitality that follows its use. Practitioners are sometimes disappointed in its action, by either delaying the operation too long or beginning too soon after its application. The former, we apprehend, is the most frequent error. They wait till the exalted vitality commences, but not till it subsides. Now, we regard this as an important point; and it is difficult to lay down definite rules respecting it. It is evident that in the teeth of young persons, and especially in those where the animal matter greatly predominates, the vitality will be more promptly aroused than in those of the opposite texture, and, at the same time, the vital change will be greater. Now, if the exalted sensibility be confined to a thin, superficial layer, it may be almost instantly subdued by the application of the ethereal or chloroformal solution, and the cavity may be excavated before the vitality of the subjacent portion is excited. But, if the operation be delayed till the reaction is established, the tooth is often found in a worse condition for excavating than before the application, and a further postponement becomes necessary.

“The remarks made on absorption, when speaking of the nitrate of silver, apply with equal force here. There is not the least possible danger from this source—there can be none, even when the chloride is applied to the soft parts.”

“TERCHLORIDE OF GOLD.—Of this substance, we have used only the ethereal solution. It acts with great promptness on dentine, forming an insoluble compound with the gelatinous portions; and, by its decomposition, and the consequent liberation of chlorine, it acts also on the calcareous salts. On account of its promptness, neither the pain nor the disturbance of the subjacent parts is great. It is, consequently, very convenient when the exalted sensibility is super-

ficial. The greatest inconvenience connected with its use is its great liability to decomposition. By exposure to air or light, the gold is precipitated in the metallic form. With due care, however, it can be preserved a long time, and it is easily prepared. There is, probably, no danger in its use from absorption; but a more extended series of experiments and observations are required to warrant a positive statement on this point.

“**ARSENIOUS ACID.**—The *modus operandi* of arsenious acid is involved in great obscurity. In regard to its topical action, Professor Bache says: ‘Arsenious acid, when it produces the death of a part, does not act, strictly speaking, as an escharotic. It destroys the vitality of the organized structure, and its decomposition is the consequence. The true escharotic acts chemically, producing the decomposition of the part to which it is applied: a state incompatible with life.’ Pereira says: ‘Though employed as a caustic, yet the nature of its chemical influence on the animal tissues is unknown. Hence, it is termed by some a dynamical caustic.’ Its escharotic power certainly bears no proportion to its destruction of vitality. That it forms definite compounds with some of the constituents of living tissues, is highly probable; yet, if so, they appear to be readily and rapidly decomposed, by which means the acid is again free to effect similar results with the subjacent parts of the tissue.

“Nearly all authorities agree that the topical application of arsenic is liable to be followed by constitutional effects. All dentists admit that the tooth-pulp may be destroyed by it, through a wall of dentine of considerable thickness. In general, they maintain that to accomplish this, the agent must, in some way, penetrate the substance of the dentine. Now, as the dentine is endowed with but feeble vitality, it is evident that its life is destroyed by the agent, to the extent that it penetrates it. Consequently, the vitality of a great portion of the dentine may be lost, by the use of the remedy, even when the pulp is not reached. The exalted sensibility of dentine is, then, subdued by this agent, more by its *vital* than by its chemical effects.

“The leading argument in favor of the use of arsenic for inflamed dentine is its reliability. Well, it is reliable—and no mistake. Whether the argued sensibility be confined to a spot, a superficial layer, or extend to the whole body of the dentine, it is alike efficient. It subdues the sensibility in these cases, just as effectually as when sweetened with syrup, or diluted with water, it overcomes the vitality of rats and cock-roaches. The exalted vitality, incident to ordinary escharotic action, is not likely to annoy the operator who uses this remedy; for all such reaction is soon subdued by it. As the despot suppresses the earliest uprisings for liberty beneath his iron heel, so this tyrant drug will not tolerate, in the subjacent dentine, even the slightest attempt at rebellion.

“The most soluble preparations of arsenic are the most energetic; and the quickness with which it acts is in proportion to the absorbing powers of the part. It is sometimes extensively used as a topical application, without inducing constitutional effects; and, in other cases, the constitutional symptoms are alarming, from the local use of a very minute quantity. The whole weight of authority, we think,

demonstrates the fact that the pulp is never safe when it is applied to a carious cavity of a tooth; and, as inflamed dentine may be otherwise relieved, that it should never be applied to a tooth, unless the extirpation of the pulp is indicated."

In a paper on "Gutta Percha as an Application to Clasps, by E. Osmond, D. D. S.," we were struck with the following very ingenious suggestions, in reference to the preparation of clasps, by firmly and neatly adapting an intervening layer or plate of gutta percha between the metal and tooth. It is a suggestion, we are inclined to hope will prove highly useful, and be the means of saving many teeth which might gradually be destroyed. His plan is as follows:

"Get up casts and strike up a plate to fit, in the usual way, fitting it as for ordinary clasps. Now, take a piece of plate, thinner than that you use for the base, cut a strip about half as broad again as you wish your clasp to be. Next, take a fine piece of card-board, cut a strip from it a little less than the breadth of your clasp, lay this upon the strip of plate and bend the edges of the latter upon your card-board, and hammer it close with a wooden hammer. This is your clasp stuff, which you will fit to the teeth in the usual manner, having the card-board next the teeth when you have fitted them to the teeth, and plate in the mouth with stiff wax. Solder them to the plate in the usual manner. In soldering, the card-board will burn out, leaving the middle of the clasp, next the teeth, hollow. A piece of clasp, viewed from the end, will present the appearance of the small italic letter *c* flattened. When you have finished the job and polished it, in the usual manner, you will fill up the hollow space in the clasp with gutta percha, swelling it out from the edges of the clasp, so as to keep them from touching the tooth.

"The best way to do this is, first put a coat or two of gutta percha, dissolved in chloroform, in the groove, taking care to apply it well underneath the overlapping edges. After this has dried, you may fill up the groove with gutta percha, softened by heat, using a plugger to shape it to your liking. Let it cool and then apply to the mouth.

"The gutta percha, when applied in this manner, forms a semi-elastic cushion to the tooth, and cannot possibly become loose, as it is retained by the edges of the clasp. Another advantage is, that the edges of the clasp are rounder and susceptible of a finer finish than it is possible to give to those of an ordinary clasp. India rubber, or anything else which may answer the purpose of preventing galvanic action and mechanical attrition, can be placed in the groove when thus constructed."

The Dental Register of the West, December, 1856.—This number opens with quite a lengthy poem in four Cantos, by an anonymous author, but furnished the "Register" by Dr. Charles H. Roberts, of Poughkeepsie, N. Y.; the burthen of the song being in the main, "dentistry." Dentistry in poetry, is of so rare occurrence since the days of

“Dental Hygia” and “Dentalogia,” by Dr. S. Brown, that its appearance is worthy special notice.

In an article on “Dental Periodicals, by James Taylor,” the writer very justly, we think, gives an exalted position to the mission and influence of the Dental press, but there are, unfortunately, some points in his paper to which we feel constrained to take exception, one of which is as follows :

“There is a difficulty here to be met in the publication of regular dental periodicals, which I fear has not been duly considered. The question might be stated as follows : are we to look for our dental periodicals to those engaged in the manufacture and sale of dental materials ; or to the profession itself ? The former may and *can* give us cheaper publications, but would the profession do well and act wisely to rely upon them ? Suppose the druggists of the United States were to control the medical publications. Let every manufacturer of drugs issue a medical journal and charge for the same about half what the regular practitioner could afford the same for, and what would be the result ?

Now, supposing by the above, that the “Dental News Letter” may be referred to, we would make bold to ask the question : “Why object to a service rendered, because the *motives* may not be fully understood ; or exactly identical with those influencing some others ; is the service any the less desirable or efficient ? If a journal is supposed to have the taint of “Dental materials” only, because its publishers are engaged in *that* business ; may not some others have the taint of “Dental Colleges,” because their proprietors or editors may belong to dental faculties ? As well might the charge be made against book publishers for their proprietorship of very many of the medical journals. As an illustration, we give the case of a high-toned medical journal of this city, whose proprietors and publishers are booksellers, and who pay a medical man of acknowledged talent, to edit it, *two hundred dollars* per annum. Does that amount pay him ; or does he look for remuneration—by indirect means—from the prominent position thus given him ; and shall we impugn his motives in accepting the office ; or cry out against the publishers because they advertise their name and business by their connection with the journal ? We argue, therefore, that the readers of a journal have no cause whatever to canvass the motives of the publishers ; but let them rather canvass its usefulness, and determine whether it is worthy their support, from its intrinsic merits.

The publishers of our journal have not, for years, obtruded upon its readers anything of a business character, and it will, in this respect, we think, bear a favorable comparison with that of any of the dental press. Such a comparison is boldly invited.

The popular mind of our country has been stimulated by the "penny press" to seek for information, and consequently knowledge is now much more general than it ever could have become without such a medium. Was there a necessity for a similar vehicle in dental literature; and if so, who has supplied the need? We leave the profession to answer.

"*Nostrums.*"—"The M. D. editor most likely had nothing to do with it. Afraid it was you, Me." No, sir; one not in authority.

SELECTIONS AND ABSTRACTS FROM MEDICAL JOURNALS.

BY S. S. W.

"*Remedial and Anæsthetic uses of intense cold.*—By JAMES ARNOTT, M. D., London.—Although the subjects of remedial efficacy of congelation and local anæsthesia from cold, have been for some years before the public, they are, as yet, but little understood and appreciated. This has resulted partly from their having been imperfectly explained, in consequence of the publications respecting them being severally incomplete, and partly from the strength of the prejudice against extreme cold. Dr. Rowley, who, in his attack on cowpox, declared that the accounts which he had heard of the terrible effects of communicating the 'cruel and beastly' disease were enough to 'freeze the soul,' was probably not more horror stricken than some have been by the proposal to freeze the body; and the introducer of vaccination was hardly more abused than the proposer of congelation has been. It is in the hope that this prejudice may be thereby abated, and the subject rendered better understood, that the following brief statement is published. Even in France, where both the remedial and anæsthetic uses of intense cold have been turned to account for some time by M. Velpeau and other leading practitioners, there is still much doubt about the best mode of applying the agent. In a paper in the *Bulletin de Therapeutique* of the 15th ultimo, M. Richet, Surgeon of the Hospital Saint Antoine, in Paris, reports thirteen operations in which local anæsthesia had been produced by the very imperfect means of the quick evaporation of ether.

"As no remedy has been longer in use, and a few are more valued than the local application of moderate degrees of cold, or a temperature, ranging from that of dissolving ice, to about 70° of Fahrenheit, it may at first appear singular that a greater or more powerful remedial effect should not have been sought by increasing the dose of the agent, or employing a lower temperature, in the same manner as we have sought and found much greater remedial benefit in many cases by using mercury, antimony, quinine and other drugs, in larger doses than had been customary. The reason is, that medical men were under a most erroneous impression respecting the effects of very low temperatures on the body. Because a temperature of zero stops the circulation, and because the vitality of a part has been lost by its long-continued congelation, whether caused by exposure to severe cold

in winter, or by the incautious use of ice in hernia and other diseases, it was hastily and erroneously inferred that there was danger of loss of vitality from *short-continued congelation*. The mistake would not be greater to infer from the fact, because a long-continued stoppage of the circulation through a limb, from an improper application of a bandage, has occasioned gangrene, that it would be dangerous to use the tourniquet in operations.

The correction of this error will be deemed of no little importance when it is considered, that in long-continued congelation, judiciously applied, we have an unfailing means of immediately arresting inflammation wherever it can be reached by the remedy; of not only giving speedy relief from pain in many diseases, but, in consequence of the organic changes produced by it, of obviating the return of pain; and in malignant disease, of producing an amount of benefit much exceeding that yet accomplished by other means. Although much inferior in importance to these results, it is yet another great benefit conferred by intense cold, that the pain which would be otherwise caused by the greater number of surgical operations can be prevented by it with perfect safety; and not only can pain be prevented, but the inflammation proceeding from the surgeon's knife, that so often proves fatal, may also be obviated by the same means, and with almost equal certainty. It will be proper to consider the remedial and anæsthetic effects of intense cold separately; but, before doing so, it is necessary to mention how this degree of cold is produced and applied, as well as to attempt an explanation of its mode of operation.

The degree of cold may be called intense which immediately benumbs the part to which it is applied, speedily stops the circulation through it, and congeals the adipose matter. I have usually produced these effects by placing what are termed frigorific mixtures either immediately in contact with the skin or mucous membrane, by means of a net of thin gauze containing them, or by allowing them to act through thin bladders or metallic vessels of appropriate form; but there are various other ways of effecting the same object, some of which are preferable for certain purposes. Substances passing rapidly from the solid to the fluid, or from the fluid to the æriform state, strongly abstract caloric from other bodies in contact with them; and substances, either solid, fluid or æriform, already sufficiently cooled by artificial means, may be placed in contact with the part; the first, as solid metallic balls of appropriate shape; the latter two, when forming strong currents. When cold is produced by the common frigorific mixture of ice and salt, and applied by means of a gauze bag or net, the following is a convenient mode of proceeding: If the congelation is not to be extensive or long continued, a piece of ice of the size of a large orange will be sufficient. This is well pounded in a coarse cloth or bag, and the powder, being placed upon a large sheet of paper, is thoroughly mixed, by means of a paper-folder, with about half its weight of common salt. The mixture is then put into a net of about four inches diameter, and as soon as it begins to dissolve it is ready to be applied. The net is not kept motionless on the part, but is frequently raised in order that fresh particles of the mixture may be brought in contact with the skin; and the water that escapes from it

may be absorbed by a sponge, or allowed to fall into a basin placed underneath. If the surface to be acted upon, is of small extent, a very thin and large copper spoon containing the mixture, or a solid brass ball of about a pound weight, which has been immersed in ice and salt, will often answer, and be a neater mode than the net.

“The moment a gauze net or thin metallic vessel containing ice and salt is applied to the skin, it is benumbed. There is hardly a sensation of cold produced, and no tingling or smarting. If the contact of the frigorific be continued a few seconds longer, the surface becomes suddenly white, in consequence, doubtless, of the arrest of the circulation; and this change of color is attended with a slight smarting, like that produced by mustard. There is now complete anæsthesia, which, if the frigorific were removed, would remain complete for several minutes. But if the frigorific be allowed to act, another change is produced—the adipose matter under the skin is congealed, and the part becomes hard as well as white. The depth to which the benumbing influences of cold will extend, depends upon a variety of circumstances, as the degree of cold, the duration of the application, the vascularity of the part, whether pressure is used or the circulation is suspended, etc. After the usual application of cold for anæsthesia, the circulation soon returns to the part, and the skin assumes a red color, which lasts for several hours. If the congelation has been considerable, there is now some smarting felt, unless the natural heat be more gradually restored by pouring cold water on the part, or by placing on it a little pounded ice, or a bladder containing iced water. If the application has not exceeded the first stages, there is no smarting, and no necessity, therefore, for such precautions.

“The redness produced does not, as might at first sight be supposed, indicate an inflammatory condition, but the very reverse. The tonicity of the small arteries appears to be lessened or suspended for a time, and instead of being inflamed, the part is rendered unsusceptible of inflammation. Parts cut after congelation heal by adhesion or the first intention, more quickly than they otherwise would; and, as has already been said, we possess in this expedient a certain and prompt remedy for every inflammation accessible to its complete influence.”

“I. REMEDIAL USES OF INTENSE COLD.—The remedial qualities of intense cold may be described as antiphlogistic, anodyne or sedative, and specific; and it is useful in the diseases for which other remedies possessing these qualities, have been employed, viz: in inflammatory, painful or irritative, and malignant diseases. The circumstances which limit its application in these, is the impossibility of extending its influence beyond a certain extent or depth, although it is certain, from its effects in deep-seated disease, that this influence, whether it be direct or sympathetic, is more extensive than would at first be supposed. It may be laid down as a rule, that in every case in which the local application of moderate degrees of cold has been found of service, the use of well-regulated congelation would prove much more useful; and in those diseases of similar character, in which moderate cold has not been employed from the idea that their seat was beyond its reach, congelation might be tried with reasonable hope of success. Intense cold has this immense advantage over other powerful remedies

of the same class, that it may be used with impunity—if it does no good it will do no harm. Who will venture to affirm this of bleeding, mercury, antimony, opium, chloroform, arsenic? Neither in my own practice, nor (as far as I can learn) in the practice of others has there been any untoward result from the use of congelation. Its action being confined to the diseased part, and not uselessly expended on the rest of the system, affords the explanation. Other topical remedies have much the same character for safety, but what other expedient of this class has a tenth part of the power of intense cold?

“Instead of enumerating the diseases in which this agent has been employed, according to the above classification, I shall mention, first, those in which it has been more or less successful; and, second, those in which it might, reasoning from analogy, be tried with hope of advantage. In administering intense cold as a remedy, the common or a more powerful frigorific has been generally applied directly to the part, or with the intervention only of the thin gauze containing it; and the duration of the congelation has been from one to ten minutes.

“In the spring of the year 1850, I requested the house-surgeon of the Brighton dispensary to apprise me of every case of acute lumbago that came under his notice, and in all of these, amounting to nine, I employed congelation with perfect and permanent success. The net containing the ice and salt was passed to and fro for five minutes, over a surface of about eight by four inches, the skin being blanched during the whole of this period. In only two or three cases was it necessary to apply the remedy twice. Several of the patients rose immediately afterwards from their beds, to which they had been long confined. In most cases of chronic rheumatism, the remedy has been equally successful; and this, on account of the frequency of the disease, is one of its most valuable applications. Sciatica has generally yielded to it, but by no means so easily. In acute rheumatism, the local inflammation of the joints is, by this means, invariably and completely relieved, and that portion of the accompanying fever thence arising, is consequently removed. The disease, thus treated, will run a painless course of about a week's duration. In no case, of about a dozen, in which congelation was almost exclusively employed, was there extension of inflammation to the heart; and I am persuaded that the best plan of preventing this, is to subdue the inflammation of the joints from which it generally originates. I did not use the remedy in cases where the heart was already affected, though I have since learned that congelation is employed in the hospital at Vienna, (where it was introduced some years ago, by Dr. Waters, of Chester,) as an application to the chest of rheumatic carditis. That this affection of the heart would occasionally occur during the treatment of acute rheumatism by congelation, is very probable, because it often arises, as the same affection of the joint does, from a morbid condition of the blood, over which the remedy can have no control; and that such an occurrence, in the present feeling on the subject, would be called metastasis from cold, is very certain; but I am convinced that it will yet be acknowledged, though probably after many years, that this affection would be much decreased in frequency, by the adoption of many means capable of quickly subduing the accompanying arthritis. When it is considered

what an immense amount of eventual mischief arises from the organic diseases of the heart that occurs under the common modes of treating rheumatic fever, to say nothing of the patient's present sufferings and tedious confinement, it is to be lamented, that prejudice should oppose any measure of great promise. In the rheumatic gout, the relief has been as marked from congelation as in lumbago. In ordinary inflammation of the joints, it has also been exceedingly useful. Ophthalmia has been immediately cured by keeping the frigorific in contact with the gently-closed eyelid for three or four minutes. Glandular inflammation in the neck and groin yield to a high degree of cold with equal facility. I have been told that in orchitis its beneficial operation is immediate; and I have little doubt that from its closeness to the surface, the urethral inflammation causing orchitis would be quickly suppressed. Congelation has often at once converted an irritable into an healing ulcer, though sometimes the patient has complained of the operation. It is probable that had the salt in the mixture been prevented from coming in contact with the irritable surface, this would have been in a great degree prevented. Certain acute inflammatory affections of the skin are equally under its influence, as erysipelas, eczema, impetigo. It has not often failed in prurigo, but in only one case of psoriasis, has it appeared to be of service. Painful nodes are at once relieved by this means and the inflammation subdued. I have only used congelation in carbuncle as an anæsthetic, previously to cutting it, but it is probable (judging from its effects in severe boils) that the incision might have been dispensed with. It has been mentioned to me that severe cold has been employed with the same view in whitlow, of which it is certainly a sufficient cure. The inflammation following sprains, contusions, and other similar injuries, is perfectly under its influence; and the same may be said of burns. In one of my publications on the subject, I have related the excellent and speedy effect of congelation in a case of meningitis, and also in a case of peritonitis. I have not had the opportunity of trying it in other affections of this description. Headache, of various kinds, has at once yielded to the application, for a minute of a frigorific over the painful part; and in neuralgia affecting the side, it has generally proved efficacious; in neuralgia, attacking the face and other parts, it has often succeeded and often failed. If the seat of the disease be deep in the brain, little can be hoped from its remedy, although there are a few obstinate cases of neuralgia in which it does deserve a trial. Toothache is generally at once relieved by it if properly applied; and there is no remedy for the painful affection of the mouth caused by mercury, comparable to congelation. A spoonful of dissolving ice and salt is repeatedly put into the mouth, until it becomes benumbed. In one case of severe scurvy of the gums, where I feared a loss of teeth, extensive congelation of the gums immediately arrested the disease.

"In many of the diseases just enumerated, the promptness of the cure is as remarkable as its certainty. In military and hospital practice, this advantage is very prominent.

"In cancer, the effects of congelation have been various. From my own experience and that of others, I think that in its early stages, and when from its size the tumor can be thoroughly brought under the

influence of the remedy, it will be cured by it. In all stages, the progress of cancer will be arrested or retarded, and the pain accompanying it assuaged. The difficulty in advanced cases, is to cause a sufficient degree of cold to pervade the tumor. The French translator of a recent paper of mine, on the subject (*l'Union Medicale* for May,) thinks that the frequent occurrence of cysts in cancerous tumors may facilitate this; but if layer after layer is acted upon, it may be enough. In cancer of the womb, the frigorific is applied by means of a speculum, and one stronger than ice and common salt will generally be required. The opinions of Dr. Hughes Bennett, respecting the nature of cancer, have much influenced the mode in which I have used congelation, in its treatment. M. Velpeau states, in his recent elaborate work on the diseases of the breast, that he has employed *long-continued* congelation as a substitute for caustic in cancer; but of this effect of the agent, I have no knowledge.

“There are other diseases, in the treatment of which, severe cold would probably be very useful. It might be applied with such a hope to the spine in tetanus, or to the scalp in certain varieties of mania. After gunshot and other severe wounds, it would prove a powerful preventative and cure of inflammation. Even in pleuritis and other deep-seated inflammation of the chest, as well as in various uterine affections, benefit might rationally be expected from it. In two cases of epidemic cholera, I administered a succession of draughts of a temperature of about 25° of Fahrenheit, with apparently excellent effect; and I cannot doubt that the application of cold to the interior of the stomach—which, as appears by the recently published report of the College of Physicians, is the only treatment of cholera which has been unanimously approved of—has not been carried far enough. If the irritation of the mucous membrane be considerable, (as it must be to account for the exhausting and fatal discharges,) the temperature of ice merely, is not sufficient to subdue it.

“II. ANÆSTHETIC USES OF SEVERE COLD.—As patients now expect to have every operation performed without pain, both they and their surgeons will be glad to have an easy and agreeable means of accomplishing this, in all the common operations, unaccompanied with the dangers of chloroform. What can be less troublesome in opening an abscess, for instance, or making a cutaneous incision, than touching the skin for a moment with a small brass ball that has been immersed for a few minutes in ice and salt, or a thin spoon filled with such a mixture? It is true that in deep-seated operations, such a means can only suspend the sensibility of the skin; but it is the incision of the skin which constitutes the most painful part of every operation; and if this be benumbed, a smaller, and consequently less hazardous, dose of ether or chloroform than has usually been administered, would be enough to remove the sensibility of the other tissues. These deep-seated operations, however, constitute a small minority, and if the list of recorded deaths from etherization be referred to, (now amounting to more than fifty,) it will be found that in three-fourths of the number, complete anæsthesia might have been produced with perfect safety by cold.

“M. Velpeau, who introduced anæsthesia from cold, into France,

has, in a lecture on the subject, recently reported in the *Gazette des Hopitaux*, expressed the doubt, whether in some operations, the hardening of the tissues by this means, might not prevent their being cut with ease. I have not found this to be the case, nor does he himself allude to this supposed disadvantage, when, in his work on diseases of the breast, he mentions that he has excised tumors after anæsthesia from cold.

“The fear of reaction I have already adverted to in the prefatory observations. Instead of reaction being produced, the anæsthetic is a preventative of inflammation from the wound; and were it used for this purpose alone, it would be invaluable.

“Local anæsthesia from cold may, as has already been observed, be produced in a great variety of ways. Some of these may be applied so as to cause immediate congelation, but it is questionable whether the anæsthesia is not more extensive and lasting when more slowly caused. Such details, however, are unsuited to the general view of the subject intended by the present communication, which, I fear, has already exceeded its proper bounds.—*Edinburgh Monthly Journal of Medical Science, and Nashville Jour. Med. and Surg.*

“*On the Constitutional Effects of Anæsthetic Agents.*—By J. HENRY CLARK, M. D., of Newark, N. J.—New remedies, like new systems of medicine, are usually inaugurated with extravagant promises. Zealous advocates adopt and publish the most flattering encomiums upon the last Eureka, which, unlike its predecessors, is quite certain never to sink below the high elevation upon which they have placed it. Little observation is necessary to note how speedily the experience of practical men determine the real position of all these newly discovered dogmas and remedies. Many remedies most highly praised never find a permanent place in the estimation of the practitioner, and very many so-called systems which are ushered in with great eclat, which secure much popular favor, and find many advocates, leave scarce a single contribution to the treasury of science, or add the smallest stone to that temple which we are ever striving to rear. A volume could be composed of new discoveries, each of which, in their day, furnished subjects for the journals, medical and secular, the very names of which have long since dropped from memory and record. It is scarcely necessary to refer to stramonium that was to cure all epilepsies, the remedy for hyrophobia; the styptic, that was to control all hemorrhages; the digitalis, that was to control the heart; and the ergot, which was certain to relieve most of the difficulties of the lying-in chamber. These and a host of others have taken useful places in the list of appliances, by means of which the physician may often control disease, usually fulfilling one or two, instead of many, medications. In the same manner, many of the ‘isms,’ ‘pathy,’ and ‘specialties,’ after making fortunes for quacks, have their day with the public, (who forget all about them, their attention being devoted to a new one just rising,) and at length become sifted, and the truth, often the merest kernel, is added to the list of tested and reliable facts.

“One of the latest discoveries that has challenged investigation, that has furnished the subject of many a newspaper paragraph, and many a chapter for our medical journals, is that of chloroform. It was introduced as one of the discoveries that would immortalize its originators. They have been rewarded with high honors and Government appropriations. The new discovery has furnished an illustration of progress and development for the orator and the author, who have regarded it as the panacea for physical suffering, even that which was entailed upon our race, in the curse pronounced upon its maternal progenitor. It was resorted to freely, if a tooth was to be extracted, or a toe-nail removed. Surgeons were recommended to use it in even trifling operations, and it is now declared in high places to afford a safe and desirable means of relieving the pains of parturition. As might have been expected, an agent so potent as, by a breath, to rob the patient of his senses, sometimes was found to produce the most mischievous effects. Patients died under its use. The partisans of the new remedy told us that the ‘cases were not well selected;’ that ‘the article was impure;’ that, if properly employed, it was entirely safe. With regard to the selection of the cases, these writers said little, but commonly referred to their own experience, if they had chanced to be successful.

“It seems to have become established that there is no rule in relation to the condition of the patient, or the purity of the article, by means of which it can be employed with any degree of security. It seems to be fast settling down into the place of affording valuable assistance in emergencies, and during the performance of capital operations. That it is a very valuable remedy, as a soporific, when diffused in the atmosphere about the patient who suffers from dyspnoea, from asthma, or any other cause, when locally applied, or when occasionally administered by the stomach, the author has almost daily evidence. That it is safe in its immediate effects, or salutary in its after influence, when introduced into the lungs in such quantities as to produce insensibility, he does not believe. In view of the casualties that are frequently reported (less frequently as the article is becoming less used,) few physicians would be willing to breathe these agents themselves, in order to experiment upon their effects. The author has observed it produce the most strange hallucinations, which continued to occupy the mind and make upon it the impression of reality, long after sanity and health was restored. He has found no difficulty in believing in the possibility of the entire innocence of Beale, the imprisoned dentist, in Philadelphia; having seen cases of hallucination in his practice, far more remarkable and improbable.

“Enough has been written of its *immediate* effects. It was noteworthy that, at the meeting of dentists held, not very long since, in this city, most declared their unwillingness to use it frequently; many of them furnished cases illustrative of the peculiar, strange and fatal symptoms which sometimes followed its administration; but nowhere have I observed anything in relation to the *permanent influence* upon the constitution produced by the inhalation of anæsthetic agents, several cases having fallen under my observation, which has induced

me to regard the whole danger as not entirely passed when the inhalation has been effected without exhibiting any phenomena indicating danger.

“*Case 1.*—Mr. J. M., a gentleman about thirty years of age, of good constitution, who ordinarily enjoyed good health, took *ether* to facilitate the extraction of a tooth. He is of a nervous temperament, light complexion, blue eyes, and light hair. The administration of the agent produced no unusual effect, except that a ‘choking feeling’ was experienced just before the occurrence of complete insensibility. After recovery from the immediate effect, for several weeks, extreme nausea and constant pain in the head was experienced.

“After the lapse of three or four months, Mr. M. applied to me for advice, complaining of the following train of symptoms, the commencement of which he dated from the day that he inhaled the ether. He is an intelligent man, and has no doubt that they are wholly attributable to the inhalation, and that they commenced at that time. These symptoms, he says, he never before experienced. Is very ‘bilious’ (to use his own language); tongue much coated; constant pain in the head, especially over the eyes; a ‘feeling as if there was a *want of mental exercise*’; habitual costiveness; pain in the right side and back; indigestion; want of muscular strength; nervous system greatly deranged; neuralgic pains; and great despondency of mind.

“Change of habits, mineral tonics and alteratives, restored him to perfect health after a few months. All these symptoms at length disappeared.

“*Case 2.*—Mr. C. M. inhaled *chloroform* for the purpose of having a tooth extracted in November, 1854. In the afternoon of January 5, 1855, I was called hastily; found him in a state of dreadful nervous excitement. He had just recovered from a period of insensibility; his extremities were cool; pupils of the eyes natural; some heat about the head and neck; convulsive twitchings in the face; and trembling with nervous agitation and mental excitation.

“When the urgent symptoms were relieved, I learned that he recovered from the immediate effects of the inhalation without any unusual symptom; that it was followed by a very unpleasant feeling in the top of the head, such as he had never experienced before; that this symptom and neuralgic pains had been constantly experienced from the day that he took the chloroform.

“In the morning of January 6th, while lying reading on the sofa, he was seized with a singular sensation of bewilderment and other feelings that he finds no language to describe. These sensations greatly alarmed him. Recovering himself, he went to his father’s warehouse; while there engaged, an hour or two afterwards, he again experienced those singular sensations, but found himself unable to *articulate distinctly*. His father perceiving that he was ill, observing convulsive twitching in his face, with palor and anxiety, and perceiving in his conduct a desire to go home, took his arm and walked with him to his residence, about half a mile distant. I was soon after summoned, and found him in the condition heretofore described.

“I prescribed stimulants, antispasmodics, and alteratives. He did not leave his room for a week, during which he suffered from extreme

restlessness, anxiety and vertigo. His pulse continued, during the week, depressed. I treated him with tonics and antispasmodics and mild mercurial alteratives with evident advantage; but his neuralgic symptoms yielded slowly. His liver was constantly torpid; lassitude, indecision, and depression of spirits were indicated in his conduct.

"I advised a voyage to Europe. He sailed in May, and remained till September. He returned very much benefitted, but had the same furred tongue that was evident in the case previously referred to, with more or less habitual costiveness. These symptoms have yielded to the use of mild alteratives, and he seems now, after the lapse of fifteen months since its inhalation, to have recovered again his wonted strength and vigor.

"In the case last alluded to, it required about eighteen months to rally from the influence of the ethereal inhalation. In the case to which I shall next refer, over two years was required to outlive the same train of symptoms, mostly neuralgic, which commenced from the day of the inhalation.

"Case 3.—Mrs. W., about twenty-five years of age, dark complexion, dark eyes, dark hair, of sanguine temperament, none of the nervous. She had usually enjoyed good health, although not robust. She received *chloroform* at the hands of a dentist also. I was called a year afterwards to prescribe for a set of symptoms very much like those described in the cases before narrated; neuralgia and "strange feelings about the head," were the prominent symptoms described, with a general feeling of "malaise." I found, as in the other cases, a determined conviction that all these symptoms were new, and that they commenced with the inhalation. I treated her as I did the others, depending mainly upon *iron*; the appearance of the countenance indicated the want of a larger supply of iron in the blood. She gradually regained her usual health. It required a full year, however, to accomplish the cure. The writer believes that the experience of others, if it could be accumulated, would prove that—

"1. Chloroform is most dangerous when employed in cases of trifling importance, both in relation to its immediate effects and final results. This is proved by the greater frequency of cases in which unpleasant results are observed, which follow the extraction of teeth or its use in trifling operations, where there is not pain enough to resist its excessive effects.

"2. That persons whose nervous systems are particularly susceptible are most liable to suffer from the inhalation of these agents.

"3. That the use of chloroform in the lying-in chamber is not devoid of danger.

"A very limited inquiry into the experience of others has been made with the following results. An eminent practitioner, in answer to my inquiry, says: 'I have given it in four cases of accouchment. One of my patients had puerperal mania, and another congestion of the brain, both within six days afterwards. It is possible that chloroform was not the cause in either case, but I have never ventured to use it since.' A lady of eminence in New Jersey, took chloroform in labor, became comatose, immediately recovered, with *permanently impaired* intellect.

"In the experience of a neighboring practitioner, a perfectly healthy girl, aged eighteen, sanguine temperament—catamenia regular, applied to a dentist to have a tooth extracted under the influence of chloroform. It was done very carefully by a prudent man. A very few inspirations sufficed to produce insensibility. The tooth was extracted, but sensibility did not return for several days—a serious congestion of the brain followed, continuing for several weeks, and though several years have elapsed, she continues in a partially demented condition, subject to periods of excitement somewhat like those which she exhibited during the original attack.

"A physician of New York City relates a case of a young woman, aged twenty-eight, in good health, who, after the extraction of a tooth, was immediately seized with the most distressing symptoms. Every muscle in the body commenced jerking and twitching. These phenomena continued for four days, despite the means adopted for her relief. They ceased at length under the use of strychnine. I am not informed with regard to the influence upon the mind.

"The same gentleman related the case of a young girl, in a good family, (without date, age, name or any facts lest the matter might become public, and grieve the friends,) who became crazed immediately after taking chloroform to facilitate the extraction of a tooth—*years have passed, and she is still a maniac.*

"Another case has come to my knowledge of a child fourteen years old, who took chloroform when about to undergo a trifling operation; she became deranged; *six years have passed, and she has in nowise recovered.*

"Morris County, New Jersey, furnishes a case, that I am not at liberty to report, in which permanent idiocy resulted from the inhalation of chloroform.

"That these agents should be used with great caution, is further proved from their influence upon certain susceptible constitutions, when not taken for the purpose of producing insensibility, but when merely exposed to an atmosphere charged with the fumes of ether or chloroform. On this point I have several illustrations, but one will suffice.

"Mr. ———, a highly respectable dentist of ———, of nervous habit, light complexion, active motion, suffered from all the symptoms which were observable in the cases which I reported in my own experience in the early part of this article, simply from breathing the fumes of these anæsthetic agents as they permeated the apartments in which he operated and resided. He was accustomed to use these agents in his practice, almost hourly; his house was perpetually filled with the odor. He became, at length, feeble, pulseless, anemic—'felt as if he had been drinking champagne'—suffered from neuralgia, and very great nervous debility. Abandonment of business, a residence in the country for three years and constant out-door exercise, and the use of electricity, accomplished a cure at the *end of that period.* He has no doubt but his illness resulted from this cause, and that his recovery is due to its removal, and the remedies employed.

"My honored and beloved preceptor, the late James C. Bliss, M. D., related a case to me, last Spring, in which amaurosis, followed by

idioey, resulted from the use of chloroform or ether in parturition. They succeeded the inhalation so promptly that it is evidently proper thus to trace cause and effect. I understood that all who saw her, both in and out of the profession, attributed the amaurosis and the subsequent derangement to the inhalation of one of these agents; I did not understand which.

“Several other cases have come to my notice, in which the inhalation of anæsthetics seemed to produce similar constitutional effects. They were not my own patients, and I could not get access to well authenticated facts in relation to them.

“These facts have made upon my own mind the impression that these agents should be regarded as remedies of great potency, and not always certain to produce none but salutary effects; that they should not, if possible, be administered to persons, subject to local determination, or where their antecedents offer reason to apprehend derangement; that their use should be avoided in persons of extremely nervous temperament, or for any cause of nervous susceptibility.

“We have the authority of eminent men in Europe, and in this country, whose experience in the use of these agents has been very extensive, in favor of their usefulness and safety. Still these gentlemen have committed themselves in favor of what may be regarded as their hobby, without being chargeable with any want of respect, and the experience of others does not justify fully their opinions with regard to their entire safety.

“If cases of dying do *sometimes* occur in the lying-in chamber, and on the operating tables—if debility, hepatic congestion, neuralgia, apoplexy, and mania, do *sometimes* follow their use—it would appear proper that he who would deserve a reputation for wisdom and discretion should be quite certain that the severity of the case demands a *somewhat hazardous* remedy. Chloroform furnishes most valuable assistance in the operations of surgery, and the lying-in chamber. With no disposition to undervalue it, and far less to treat lightly the valuable statistical evidence furnished by Professor Channing, of Boston, and Professor Simpson, of Edinburgh, of its comparative safety, when carefully employed, I cannot believe that its employment to relieve the pangs of *ordinary confinement*, or to allay the pain of a trifling operation, is wise or expedient. If, in my comparatively limited experience, three cases should come under my observation within about two years, others, situated more advantageously, could note many such cases, if looked for. To record the result of my observations, and to prompt abler observers to look in the same direction, is the whole of my present purpose.

“While writing the concluding pages of this article, I have been called to administer chloric ether in a case of amputation of the adventitious toe of each foot, from a young gentleman of vigorous health. Although the operation was not very protracted, and the ether was administered by a discreet medical assistant, derangement followed; nor were my anxieties entirely relieved with regard to these effects before the lapse of six or eight hours.

“If the facts which I have collated are sustained by those of larger experience—if there are constitutional effects, as well as immediate, to

be guarded against, more regard should be given to the habits of the patient, and these agents should surely be reserved for grave and trying emergencies.

"That permanent ill effects should be produced by agents that cause insensibility or derangement, is to be expected by analogy, and by previous experience with regard to other agents which produced like phenomena. I have not access to the facts in the case, but, if I mistake not, the same kind of effects, both immediate and constitutional, were experienced in the case of Professor Fisk by passing a current of electricity through the diaphragm. If the reader has access to the facts, he will find it a case in point.

"In an early volume of the *Amer. Jour. of Science and Arts* is an account of the constitutional effect of the inhalation of the "Nitrous Oxide Gas." The subject of the experiment, immediately after taking the exhilarating gas, began to laugh immoderately, and laughed incessantly for years afterwards. It is furthermore related, if I remember correctly, that recovery never took place.

"It is likely that we shall never discover a perfectly safe and harmless way of parting company with our senses, with the expectation that, after the object is accomplished, be it but the advance of science, or the relief of pain, we can be quite certain that reason and intellect will promptly return."—*New York Journal of Medicine*.

At a Lecture delivered by M. GRISOLLE, Paris, on the subject of *Anæsthetic Agents*, he stated, that "All anæsthetics must be regarded as unsafe agents, and not to be prescribed except in severe cases, and by no means to be indiscriminately employed in trifling cases, such as extraction of teeth, etc."—*Edinburgh Medical Journal*.

Carbonic Acid Gas as a local Anæsthetic.—"Dr. Finnell then presented a toe-nail which he had removed, first benumbing its sensibility by the use of carbonic acid gas. The toe was placed in a large-mouthed glass jar, and the gas generated, first filling up the space between the toe and the jar by means of raw cotton. In fifteen minutes the nail could be bent and twisted without the slightest pain. The numbness extended to the little toe and the sole of the foot.—(Extract from Report of New York Pathological Society.)—*Med. and Surg. Reporter*.

Hæmorrhagic Diathesis.—"There is a condition which now and then presents itself to the notice of the surgeon—though fortunately a rare one—known as the hæmorrhagic diathesis, from the great tendency, we may say, to uncontrollable bleeding from the slightest and most trivial wounds and bruises, ending not unfrequently in death, especially in children. This peculiar diathesis has been pronounced to be acquired at birth, the result of hereditary transmission, or the effect of a scorbutic condition. At any rate, the fact is now undisputed that it depends upon a want of a proper quantity of fibrine in the blood, which influences to a certain extent the contractile power of the capillaries, whatever the cause may be that produces it. The

character of the bleeding is that of a general oozing from the capillaries of the part, and that it does not flow *per saltum*; the trickling of the oozing stream being continuous and incessant.”—*Erichsen London Lancet*.

The following, reported by Dr. JOHN R. MILLER, is an interesting case in illustration, “in which the bleeding from the gum was only arrested by the extraction of the tooth in its immediate vicinity.”

“The patient, a gentleman of middle age, of a pale, anæmic habit, has been subject, from his earliest years, to occasional violent bleedings, which have been arrested always with great difficulty. In his boyhood, it took the form of epistaxis; in later years that of hemorrhoidal flux. His life, at one time, was considerably endangered, owing to uncontrollable hemorrhage, resulting from a few leech-bites; at another, from the removal of a tooth; and so alarming was the consequences of this latter operation, that he was solemnly cautioned by the medical men in attendance, that on no account must he ever consent to have another extracted.

“On the 25th of July last, while residing in the country, after a greater amount of exertion than usual, he commenced, at 11 P. M., to spit blood; and upon examination it was found to proceed from around the neck of the first lower molar on the right side.

“The tooth was very loose, owing to absorption of the alveolar process, and the free edge of the gum embracing the tooth, showed an ash-colored line of ulceration, from which the blood was seen to issue. The gums were in a very relaxed condition, but did not present the smallest scorbutic appearance.

“At first, astringent lotions of myrrh, alum, catechu, were employed; then the part was touched with the tincture of the muriate of iron, and a purgative of compound powder of jalap was administered, followed by small doses of sulphuric acid; after which the acetate of lead and opium pill was had recourse to.

“In seven hours from its commencement the bleeding was stopped, but broke out again at 1 P. M., (25th.) Similar measures were again employed, but without success; and the bleeding, which was considerable, having now continued for other five hours, the patient was seen by Dr. Brown, of Melrose, who, of course, at once recommended the extraction of the tooth; but, on learning the hemorrhagic constitution of the patient, he agreed with me that this plan could not be thought of.

“Having found gallic acid of great service in cases of passive hemorrhage, he thought it might be tried here with advantage. He also touched the part with kreasote, and failing good effects from this, recommended the mouth to be washed with tinc. of mur. of iron, largely diluted.

“The kreasote produced no beneficial results; the bleeding continued unchecked for eight hours more, when a temporary cessation occurred, (2 A. M. ;) but only to be renewed at 1 P. M. of the same day. We now tried ice externally, by means of a bladder, and the nourishment—which was chiefly strong beef tea—was given cold. Iron internally was added to the other remedies. But the hemor-

rhage was no way influenced for the next fifteen hours, when it suddenly ceased on the 28th, 4 A. M.

“Matters were now assuming a very serious aspect. As near as we could calculate—making due allowance for the admixture of saliva and different lotions he was using—the patient had already lost at the rate of about $\frac{3}{4}$ j. of blood for every three minutes during which the bleeding had lasted, and that, for the thirty-five hours of actual hemorrhage since the night of the 25th, gave between five and six pounds of blood. It was not, however, consequent upon the amount of blood lost, that grounds for immediate anxiety existed; for, although he was very weak and exhausted, which the want of sleep and proper nourishment had increased, yet the pulse indicated nothing hemorrhagic, but was of moderate fullness, slow, easily compressible. Could we have assured ourselves of no further hemorrhage, a few days would have sufficed to restore the patient; but, with the experience we had already had, we held no guarantee that the blood might not at any moment burst out afresh; and we could not but feel how impotent the measures hitherto employed had been, and that nothing further we could suggest gave promise of better success in the event of its recurrence. Under these circumstances, therefore, it was considered desirable to call in further advice.

“Dr. Begbie and Mr. Nasmyth, who now saw the case, recommended *pressure* with dry lint should the bleeding return, and in the meantime to continue the internal use of the iron. At this stage the gum and neighboring parts were a good deal swollen and blackened by the tinct. of iron and kreasote; coagula were also adherent; the mouth was opened with difficulty, and a satisfactory examination was scarcely now possible, as much from the risk of again inducing hemorrhage as from the confused state of the parts.

“On the evening of the 30th, at 7 P. M., when the sloughs were becoming detached, and the mouth assuming more its natural appearance, blood was again suddenly poured forth. Owing to the second molar being in its place, it could not be clearly made out whether the ulceration, which was visible around the sides and anterior portion of the first molar, extended likewise to the portion of gum lying between. It was probable that it did; at this point, however, pressure was inapplicable. Indeed, consequent upon the extreme mobility of the tooth, and the existence of ulceration—a condition of itself, under ordinary circumstances, unfavorable to the employment of pressure as a means of arresting hemorrhage—it became a matter of extreme difficulty, as well as uncertainty, the application of pressure at all. It was necessary to employ, not only pressure, but counter-pressure, so as to keep the tooth as steady as possible. The forefinger and thumb applied over a roll of lint, close up round the neck of the tooth, seemed the method best calculated for fulfilling the object in view; but the least movement on the part of the patient, or unsteadiness of the operator, must at once displace the relative position of the compress and bleeding surface. And so it proved. The lint became frequently soaked with blood, and had to be renewed; but at last, towards morning, the bleeding appeared to be under control, and at 6 A. M., of the 31st, it ceased altogether, the lint remaining *in situ*.

Hopes were now entertained that the hemorrhage was at length combatted; but these were soon doomed to be disappointed, for at 11 P. M., the same evening, it recommenced as profusely as ever; and although fresh compresses were re-adjusted again and again, and the pressure sedulously maintained, it not only produced no effect in checking the flow, but seemed even to increase it. It was, therefore, laid aside, and the former measures resorted to. The bleeding, after having lasted nine hours, ceased, as on previous occasions, spontaneously.

It was now evident that the patient could not sustain, for many days longer, such a continuous drain on his system. It was like a man living on his capital, with no prospect of further supply sufficient to meet his daily expenditure. It resolved itself, therefore, into a question of *time*. How long could the patient live while no blood, at least none of a proper quality, was being formed to replace that being daily lost? The patient must sooner or later die of *anæmia*. Other unfavorable symptoms, likewise, were now manifesting themselves. He showed a distaste to all kinds of nourishment; his pulse, though slow, was small, very compressible, and frequently intermitted. He was unable to sleep, and was becoming restless and feverish, for which opiates had been tried, but were found inadmissible.

“On considering all the circumstances of the case, it was now proposed by Mr. Nasmyth, that if the bleeding returned, the tooth should be removed. This was in the face of the known tendency of the patient, and especially contrary to the warning he had on a former occasion received against *extraction* in particular. But it was now obvious that neither pressure, styptics, local applications, nor internal remedies, were of the slightest avail. The tooth out of the way, pressure could then be more directly applied to the bleeding points, and with some probability of success. The contraction of the gum, likewise, would of itself do some good. At all events, matters could scarcely well be worse than they were at present. An opportunity soon presented itself for putting it into practice.

“On the morning of the 3d August, the hemorrhage reappeared as before; the tooth was extracted with the forceps with little difficulty, and the gum lightly compressed. Only the usual amount of bleeding followed, and our astonishment was only equalled by our satisfaction, to find that in a short time it ceased entirely. A recurrence took place after a few hours, but under the use of pressure with the finger, and diluted tincture of matico, the amount was not very considerable.

“This was the last of it.

“And now, naturally enough, my first feeling was one of unqualified regret that this plan had not been adopted at the outset; and there may not be wanting some who may be disposed to censure me for indecision and an error in judgment, for having relinquished this course out of preference to the other. But, it may be well to consider, how easy a matter it is for one who has been forced to make a leap in the dark, and suddenly finds himself on the other side sound and well, to ridicule the hesitation and fears of another who knows not the extent and danger of the gulf yawning at his feet. It would, assuredly, have been a proceeding open to the imputation of unpardonable

rashness, had I—with the recorded cases of a fatal termination following the extraction of teeth, in not a few instances, where, as in the present one, hemorrhagic constitution prevailed—at once removed this patient's tooth, before having made trial of every other measure which seemed likely to promise relief.

"The sequel of the case, I think, shows that the tooth was the exciting cause of the hemorrhage, and had it been allowed to remain in, the patient must at length have sunk from loss of blood. The appearance of the tooth, one fang of which was roughened and darker than the other, indicated an inflammatory action of the socket, and the portion of the fang which was dead, acted like a foreign body, and kept up the irritation. The danger here, therefore, arose from the presence of the tooth, a feature which removes this case entirely from comparison with others, where danger has only commenced subsequent to extraction; and were we to lose sight of the antecedents of our patient, we might be led into the error of considering it not one of hemorrhagic diathesis at all, but merely an illustration of great local disturbance of the capillaries of a particular spot."—*Edinburgh Med. Journal*.

New Hemostatic.—Dr. BUTLER, of Ohio, recommends a scruple of tannic acid to be dissolved in an ounce of elixir of vitriol, and fifteen drops to be given as a dose—in menorrhagia, etc.—*Am. Jour. of Phar.*—*Monthly Stethoscope and Medical Reporter*.

Sympathetic Irritation.—We copy the following remarks of Mr. J. C. Foster, on this subject:

"Every surgeon must have been frequently struck with the anomalous diseases of a purely sympathetic character to which children are liable; diseases arising simply from irritation, yet assuming frequently a very serious aspect; every one, indeed, must have observed how the irritation of a tooth, or undigested matter in the bowels, gives rise to the most apparent cephalic symptoms, and the mere removal of the former is the means of immediately restoring the child to its natural health.—*Med. Times and Gazette, and Half-yearly Abstract*.

Again, as shown by the following, from Dr. Tyler Smith:

"Irritation of the Trifacial nerve may also produce abortion. This happens sometimes from the irritation of cutting the wisdom teeth, the extraction of a decayed tooth, or the irritation of constant odontalgia."—*London Lancet*.

Neuralgia.—"Facial Neuralgia from uterine irritation is a very common affection of pregnancy. It generally affects the dental nerves, particularly those of the upper jaw. In many subjects, acute caries of the teeth occurs; and in some child-bearing women, a tooth or two is lost in each pregnancy. In neuralgia of the face, with or without disease of the teeth, a generous diet is called for, with wine and porter. Quinine and the lighter preparations of iron are very useful in such cases. Cold and damp, and residence near a river, or the neighborhood of any large body of water, should be avoided as much as possi-

ble. Teeth ought only to be extracted with caution during pregnancy under such circumstances. The local application of chloroform, kreasote, camphorated spirit, nitric acid saturated with camphor, and other anodynes, scarification, or the application of a leech to the gum, are the best means of alleviating pain.”—*Extract from Dr. Tyler Smith's Lectures; London Lancet.*

Treatment of Neuralgia, by the Valerianate of Ammonia. By Dr. DECLAT.—“We have prepared an abstract of an interesting translation from the *Revue Med. and Etrangere*, which may be found in a late number of the *Medical Examiner*, as it brings to our notice a new remedy, which may be of value in the treatment of a class of diseases increasing in frequency, and often times obstinate in their persistency. According to Dr. Declat, such cases will yield to the influence of the valerianate of ammonia; and as proof of his statement, he gives the two following cases:

Case 1.—“The Marchioness of Fontanelle suffered with facial neuralgia for six years, first appearing as she was cutting a wisdom tooth. Legrand and Jobert (de Lamballe) ordered its extraction, which was done, causing agonizing pain. The neuralgia still continued, in spite of every effort of such advisers as Sedillot, Velpeau and Jobert. Quinine, opium, belladonna, strychnia, iron, gold and quinquina were employed, and external applications, as blisters, opium plasters, dulcamara, chloroform, collodion, aconite, &c. Every thing failed. Jobert applied the actual cautery along the course of the inferior maxillary nerve, and after trying the waters of Plombiere with partial though temporary relief, the Marchioness applies to Dr. Declat.

“The first remedy used was Fowler’s solution, which was pushed until it produced constitutional symptoms, without success. The patient had become almost insane from the agony, when an experiment was made with valerianate of ammonia on the 3d of January. A teaspoonful that night relieved partially, and two teaspoonsful the next day entirely banished pain. The medicine was discontinued May 6th. Occasionally, however, Madame Ferrand has “slight twinges,” but resorts to the specific, and always successfully. This lady seems to have hereditary right to neuralgia, her mother having been a great victim to the disease, whilst her brother, the Earl of Essex, has had tic douloureux from his youth.

Case 2.—“M. Letellier, who had suffered horribly with pain in the head, extending to the neck, and losing itself on the branches of the facial nerve, was at Plombiere’s when taken, and returned to Paris in great agony. Dr. Lewis tried blisters, sage, quinine and morphia, without any effect. He used morphia to such excess as to remain in stupor almost constantly. Dr. Declat administered the valerianate of ammonia in drachm doses twice a day. In five days he was up, and in nine days all pain had passed away. He has since stated that his cure was complete.”—*Medical Chronicle, Montreal.*

Facial Neuralgia.—“M. Lecointe* has employed chamomile, both in powder and concentrated infusion, in facial neuralgia, both periodic

* *Rev. Med.-Chir.*, January, 1855.

and non-periodic, with good results, even after other means of relief had failed: and believes it may in certain cases, advantageously supplant the Peruvian bark. The dose, however, must not be less than four grammes; or, if given in infusion, the latter must be strong.”
—*Med. Chi. Rev.*

Neuralgia.—“A case is related which was under the care of M. van der Kieft,* in which neuralgia of the scrotum, which had resisted the internal use of tartar emetic, inhalation of chloroform, and the topical application of extract of belladonna and of chloroform, gave way under the internal use of chloroform in doses of twenty drops every quarter of an hour. The pain lessened after the second dose, and disappeared after the third.

Letter from Dr. G. W. Arnett, on Citrate of Caffein, in Neuralgia.—Bosseir Parish, La., May, 1856.—MR. EDITOR:—I see in the May No. of your Journal—p. 414—muriate of morphia and coffee recommended in Neuralgia by M. Boileau.

I have used in the same disease the citrate of caffein and the sulphate of morphia, with more success than with all the remedies that I have seen tried. I have used the same remedy with more relief to my patients in nervous headache, hysteria, and a few other diseases of a similar character, than any other *one* remedy. My prescription varies in amount to suit the case; but the average would be about

grs. $\frac{1}{2}$	-	-	-	-	-	sul. morphia,
“ iiij	-	-	-	-	-	caffein,
“ iiij	-	-	-	-	-	citric acid,

to be given in some warm coffee, or, which is better, in a decoction of rad. senega. The caffein and citric acid will, in the majority of cases, relieve nervous irritation without the addition of the morphia; which is a desideratum when the bowels are constipated. It acts powerfully on the skin, equalizes the circulation, and thereby removes local congestion. Very respectfully, &c.,

G. W. ARNETT.

[*Charleston Journal.*]

The dependence of Facial Neuralgia upon Dental disease. By Mr. CLENDON, Surgeon Dentist to the Westminster Hospital.—“In the introductory lecture to his course of lectures on Dental Surgery at the Westminster Hospital, Mr. Clendon says (and we would call particular attention to his remarks):—

“Patients will complain to you of rheumatic pains in the face, of deep-seated pain in the jaw, extending to the orbit and temple, or to the ear; of pain, not in one tooth only, but ‘in all the teeth;’ of tic douloureux; of anything, in short, rather than admit the probable cause—a diseased tooth. In this, as in their history of cases generally, patients are not to be implicitly relied on; there is a natural tendency to magnify their sufferings, and they also deceive themselves, from an unwillingness to admit an unpalatable truth. Before you proceed to

administer medicine in such cases, you must satisfy yourselves as to the condition of the teeth and gums. The patient will of course contend that the pain does not proceed from a tooth, and a cursory examination might possibly lead you to the same conclusion. But you must remember a tooth may not necessarily be decayed to occasion severe pain; some change may be taking place in the condition of its periosteum; there may be deposit of bone in the alveolus, displacing the tooth, or causing a corresponding absorption of its roots, or there may be ossific deposit on the root itself; either of these conditions is sufficient to give rise to the most painful and distressing symptoms, which may extend over a period of several years. Sometimes the pain is caused by the presence of a minute portion of root broken off from a tooth, deeply seated in the gum, and long since forgotten. Owing, perhaps, to the absorption of the alveolus, in which it hitherto quietly lay embedded, this being set free, may be slowly working its way to the surface, and giving rise to occasional paroxysms of the most acute character. In such cases, it is evident medicine is useless, and consequently injurious; relief can only be afforded by the removal of the tooth or root, which a careful and peculiar mode of examination—familiar to those who practice this branch of the profession—will alone enable you to detect. These occasional paroxysms in the face and jaws are not inaptly termed *tic douloureux*. Although a very fashionable complaint, it is by no means confined to the higher ranks; you will meet with it daily in every class of society. The pain arising from diseases of this character is sometimes so intense, and its cause so obscure, that patients naturally incline to give to their own sufferings the name which expresses at once the most acute and, as it seems to them, the most mysterious form of all such maladies. But when I tell you that in a tolerably wide field of observation, public and private, during a period of twenty years, I have only met with three or four cases of true idiopathic facial neuralgia—that is, neuralgia which would not yield to purely local treatment—you will at once perceive the necessity for a careful examination to satisfy yourselves most fully on this point, before you proceed to subject your patient to a course of medicine.”—*Ranking's Abstract*.

Chlorate of Potassa.—“In seventy cases of stomatitis and ulcers of the mouth, Professor Hauner used this remedy with constant success. The results were wonderful; for in four hours the disagreeable odor of the mouth disappeared, and the cures were rapid. Water $\mathfrak{z}\text{iv}$; simple syrup $\mathfrak{z}\text{ss}$; chlorate of potassa $\mathfrak{z}\text{j}$; mixed, and used in twenty-four hours.”—*American Medical Journal*.

A large Salivary Calculus.—“Our friend, Dr. P. D. Hughes, of Bryne, Tennessee, sends a remarkable calculus, measuring one and four-tenth inches in length, and one and one-tenth inches in its greatest circumference, and composed, undoubtedly, of phosphate of lime. He writes: ‘The negro man from whom it was obtained, had been afflicted with disease of the throat for some ten years, and had been treated externally with cayenne and other stimulating gargles; and the other day, while searching with his fingers near the root of his

tongue, caught hold of it and extracted the specimen here sent you.' It might have been derived from the tonsil or even the sublingual gland."—*Nashville Journal*.—*Louisville Review*.

—
 “*The Use of Glycerine for the Preservation of Organic Bodies*.—Luton states that animal and vegetable substances may be kept for a long period perfectly free from decomposition when immersed in glycerine. He also finds that it is a good antiseptic agent for injecting dead bodies.”—*Lon. Lancet and Med. Ex.*

—
 “*Glycerine*.—This article is likely to take its place among the most highly valued, both in medicine and the arts, and the sooner, since a process has been discovered by which it can be rendered pure by distillation. Its remarkable power as a solvent, united to its entire blandness, and freedom from all irritating and fermenting properties, recommend it for a vast variety of uses. It dissolves the vegetable acids, the deliquescent salts, the sulphates of potassa, soda, and copper, the nitrates of potassa and silver, the alkaline chlorides, potassa, soda, baryta, strontia, bromine, iodine, oxide of lead, the salts of morphine, strychnine, brucine, veratrine, the sulphurets of potassium, lime, and iodine, the iodides of sulphur, potassium, and mercury, the salts of quinia, &c. Besides its extensive usefulness in diseases of the skin and ear, it is used internally as a substitute for cod-liver oil: and also, in its purity, for dissolving calculi, by being injected into the bladder. It is a substitute for syrups in preserving fruits and vegetables, and for certain medicinal preparations. Fresh meats are kept in it for any length of time; and both animals and vegetables are preserved in it without changing their color, however brilliant. Vast quantities can be manufactured from every variety of oils, and at very low prices, compared to what it is sold at now; and it seems to promise well for combustion, both for heat and light, in certain combinations.”—*Memphis Med. Recorder and Med. and Surg. Reporter*.

—
Ulcerative Stomatitis.—“A woman, aged thirty, came under his (M. Petel's) care on account of ulcerative stomatitis. The disease had been present for a month; the gums were red, soft, and had partly receded from the teeth, and the mucous membrane of the mouth, near the molar teeth, was in a state of ulceration, which might almost be called phagedenic. The patient was able to take only liquids, and had not been able to sleep for a fortnight. M. Petel applied glycerine, and gave chlorate of potash internally. On the next night the patient slept well: in three days there was a marked improvement in the appearance of the ulcerated surface; and in nine days the patient was cured.”—*Ass. Med. Jour.*

—
Necrosis from Ulcerative Stomatitis.—Dr. Bibbins exhibited four specimens of *necrosis*, obtained at the Nursery Hospital, five years since, from cases of *cancrem oris*. The disease, in one instance, involved the superior maxillary bones on either side of the symphysis, terminating fatally; in the other three, the lower jaw, from the angle to a point near the middle, ending in recovery. The gangrenous was

a sequence of ulcerative stomatitis, beginning at the margin of the gum of the tooth, adjacent to the part of the cheek affected. Patients were between two and a half and four and a half years of age, of marked strumous diathesis, with greatly impaired constitutions, from repeated attacks of disease during their stay in the institution. Removal of one or more teeth, and the thorough application to the congested portions with a swab, doing as little violence as possible, of a wash composed of sulphate of copper and powdered cinchona and water, made three or four times a day by a faithful Dutch nurse, who laid the children across her lap, with their heads depending so as to admit a full light upon the region to be stimulated, probably produced the favorable results.

“The opinion was advanced that cancrum oris may occur independent of direct mercurial agency, for ulcerative inflammation of the mouth tending to gangrene, was not unfrequently seen in children who had taken no medicine for three or four months, having been during that time in the Nursery for the well, upon the island.”—(*Extract from Report of New York Path. Society.*)—*Med. and Surg. Reporter.*

—
“Mercurial Stomatitis—Chlorate of Potash.—M. Demarquay relates six cases in which chlorate of potash succeeded rapidly in curing the stomatitis arising from the action of mercury. In one case, where the mercury had been used for a syphilitic affection, two grammes of this salt, given for four days, removed the stomatitis, and on resuming the mercurial treatment, and conjoining it with chlorate of potash, salivation did not reappear. The harmlessness of the salt is well known. M. Gustin took eight grammes, but did not find the urine increased; a sense of constriction in the mouth and some roughness of the gums were produced, and although the saliva was not sensibly diminished, yet it appeared to him more liquid than usual. He has established the fact, that the chlorate is in great part discharged unaltered by the urine. When the salivation has recently commenced, two-gramme doses suffice to check it; but when it is intense and fully established, the dose must be increased rapidly to five, ten, or fifteen grammes. He advises also the conjoined use of an astringent wash for the mouth.”—*Med. Chi. Rev.*

—
“New Form of Astringent Application.—By Dr. WILLIAM BAYES, Brighton.—Pure glycerine dissolves nearly its own weight of tannin, affording a very powerful local astringent application. * *

“The solution of tannin in glycerine, in one or other of its strengths, is peculiarly applicable to many disorders of the mucous membrane, readily combining with mucus, and forming a non-evaporizable coating over dry membranes; hence it may with benefit be applied to the mucous membranes of the eye and ear in many of its diseased conditions. It forms a most convenient application to the vaginal uterine, urethral, or rectal membranes, where a strong and non-irritant astringent lotion is desired.

“In local hemorrhages, where the bleeding surface can easily be reached, it will prove very convenient, and may be applied either with a sponge or small brush.

"The solution must be kept in the dark, and should not be prepared for any great length of time before used, or decomposition will occur.

"It is singular that glycerine does not possess the same property towards gallic acid."—*Association Med. Jour. and Charleston Med. Jour.*

"*Cancer of the Lower Lip.*—(Extract from Surgical Notes, by Dr. S. KNEELAND.)—Fifty-eight cases, of which only five were in females, and generally beyond the age of fifty. In most, the habit of pipe-smoking was acknowledged. Many eminent surgeons, among others, the late Dr. J. C. Warren, have considered this habit one of the most frequent exciting causes of labial cancer.

"*Cancer of the Tongue.*—Twenty cases, of which five were females—almost always in tobacco-poisoned mouths. This comes on at an earlier age than cancer of the lip."—*Bos. Med. and Surg. Jour.*

The following translation of a memoir by Dr. G. Levi, by Dr. Porcher, presents evidence of a similar character:

"Laycock, by his own observations, and that of others, was led to affirm that inflammation and ulceration of the larynx in men who had made too great use of tobacco, smoked. Leroy d'Etiolles writes, that owing to the smoking of tobacco, cancer of the lip presents itself in twenty-seven times out of a hundred cases among men, and one and a half in a hundred among women."

"*Cancer.*—With regard to operation. *Encephaloid* may be more frequently removed, with relief or success, than *scirrhus*, especially if it occurs in the young, and is removed sufficiently early and freely. When it returns it is with extreme violence. *Scirrhus*, though often removed, is very rarely cured. When adherent, or the glands are affected, it is worse than useless to operate, relapse is certain and rapid. If very chronic and small, operation may convert a comparatively harmless tumour into an active agent of destruction. In epithelioma, the rule is to operate again and again if you can remove all. When the disease originates in mucous membrane, as the rectum, the tongue, the gums, you have but little chance of success. The application of the actual cautery after removal is a valuable aid. The cicatrix of a burn is not a favorable nidus for epithelial growths.—*Dr. M. H. Collis, Braithwaite's Retrospect.*

"*Public Meeting of the Dental Profession.*—On Monday evening last, a numerous and influential meeting of members of the dental profession and others interested in the advancement of dental science, was held at the London Tavern, Bishopsgate street, when resolutions in favor of establishing a Society of Dentists, similar in many respects to the existing medical societies, and of establishing a College of Dentistry, were unanimously carried. The meeting was very ably presided over by Mr. Alfred Carpenter, M. B., who, as a medical practitioner, could speak to the importance of the movement in an impartial manner. The resolutions were proposed and spoken to by Mr. S. L. Rymer, Mr. Thompson, Mr. Mackenzie, Mr. Peter Mathews,

Mr. W. Perkins, &c. Remarkable unanimity characterized the whole proceedings, which were brought to a close (after the appointment of a committee of twenty-five to carry the resolutions into effect) by a cordial vote of thanks to the chairman.—*London Lancet and Boston Med. and Surg. Journal.*

Dr. D. P. Smith reports, in the Boston Medical and Surgical Journal, two cases of cure of fissure of the soft palate by ligature, in females of the respective ages of twenty-eight and thirty.

Muriate of Ammonia, internally.—It may be given in many chronic inflammatory diseases, as chronic bronchitis, enlargement of the lymphatic glands, chronic skin diseases and chronic rheumatism. Dr. Watson testifies to its efficacy in certain forms of facial neuralgia, nervous headache, toothache and sciatica. Its action is sometimes remarkably beneficial; when the secretion from the pulmonary mucous membrane is tough and tenacious, it speedily becomes altered in quality and consistence. In chronic periosteal inflammation, having a syphilitic origin, it seldom fails to give relief. In indolent bubo a strong solution (ʒij. to ʒi.) may be kept constantly applied, and five to ten grains may be given internally three or four times a day. In neuralgic affections, Dr. Ebden has given from 25 to 30 grains for a dose.—*Dr. A. Lindsay.—Braithwaite's Retrospect.*

Luxation of Lower Jaw.—"The luxations produced by M. Néláton on the dead body, seem to have settled the question as to the cause of the fixity of the bone in its abnormal position. They decide in favor of the opinion first expressed by Hunauld, that this is due to the coronoid process—which, in the dislocation, is lowered and carried forward—coming in contact with the inferior part of the malar bone, near its junction with the superior maxillary. By fixity of the bone, however, we must only understand that it cannot be made to approximate the upper maxillary; for Hippocrates noticed that the patient could depress the chin slightly, and M. Néláton, with others, admits this fact. Astley Cooper appears to be the only observer who asserts that the patient can slightly elevate the chin. If this ever be possible, it must clearly be very rarely so; and, under the circumstances, the coronoid process must be lower than usual, and not in contact with the malar bone. M. Robert has reported the only case apparently on record, of dislocation *outwards* of this bone. The dislocation was uni-lateral, the condyle on the left side being thrown out, there being, of course, a fracture of the bone on the right side."—*Charleston Med. Jour.*

An alloy of iron and nickel is very ductile and strong, and almost proof against rusting."—*Scientific American.*

Annealing Wire.—"J. Cocker, of Liverpool, Eng.—This improvement consists in first heating the wire in an oven, then passing it into a closed chamber to cool so as to anneal it perfectly."—*Scientific American.*

Patent Claim—Dental Forceps.—"John G. Coates, of Big Lick, Va. "I claim constructing forceps with rotating beaks, to adapt themselves to the exterior formation of the tooth, substantially as and for the purpose specified."—*Scientific American*.

Patent Claim—Dental Forceps.—"Hazen J. Batchelder, of West Fairlee, Vt. I do not claim the application of a rest or bearer to a pair of dental forceps, whereby they may be supported on any part of the jaw or teeth, adjacent to a tooth to be extracted; nor do I claim combining the forceps with the fulcrum slice or plate by a universal joint; nor do I claim combining with the fulcrum or bearer the handle or lever, by which the said fulcrum may be maintained in place.

But I claim applying or connecting the forceps and the bearer by a stirrup and slot, irrespective of the universal joint, and substantially as specified, or its equivalent, so that the distance between the extreme end of the bearer and the points or ends of the jaws of the forceps may be adjusted, or, in other words, either increased or diminished, as circumstances may require."—*Scientific American*.

Patent Claim.—Casting Artificial Tooth Plates.—"John L. Newell, of Binghampton, N. Y. I do not claim the electrotype art of depositing metals into casts or moulds; neither do I claim the making of the cast or mould.

"But I do claim constructing the linings in one piece, and simultaneously with the plate, by the electrotype process, as set forth. I also claim filling the interstices of artificial teeth, when attached to a metallic plate with a metallic precipitate solidified, in the manner described and for the purpose specified."—*Scientific American*.

New Alloy Resembling Silver.—"An alloy composed of nickel, four parts; copper, five; tin, zinc, lead, iron and antimony, each one part, resembles silver in appearance, and possesses similar properties. These metals are placed in a crucible, and melted in a fire into a button, which can be afterwards rolled into sheets. A patent has been obtained for this alloy by George Toncas, of Paris, who has termed it 'Toncas silver.'"—*Scientific American*.

New Cement.—"A little ground borax, mixed with plaster of Paris, makes an excellent cement for many purposes. It is simply mixed up into a plastic consistency, then applied with a trowel; it soon hardens."—*Scientific American*.

"Obscure Nervous Diseases Popularly Explained. Being Six Letters addressed to a Physician, on the many Nervous Affections resulting from Nervous Irritation and other Sources of Reflex Nervous Disturbance. By J. L. LEVISON. London, 1856. pp. 114.—Although no period of life is equally prone to reflex irritation proceeding from the teeth as early infancy, still, cases occur to every medical man in which, at later dates, anomalous and painful affections are found to result from caries, exostosis, mal-position, or other morbid conditions of these organs. Cases of dyspepsia and facial neuralgia

from this cause are familiar to us. Mr. Levison communicates several instances of nervous affections, of a peculiar character, not ordinarily the consequences of dental derangements, which were shown to depend upon that cause. Among the instances given by the author, we may mention a well marked case of chorea, consisting mainly in convulsive spasms of one side of the neck; another of partial paralysis of one side of the body; another of ptosis; one of sleeplessness, in which cure was obtained by improving the state of the teeth. The subject is one of great interest, and we thank Mr. Levison for the information he affords us. We should be glad to welcome the appearance of a more comprehensive work than the one before us, embracing all the various phases of dental irritation, and addressed, moreover, solely to the medical profession.”—*Med. Chi. Rev.*

“*Perchloride of Iron as a Hæmostatic.*—A correspondent of the ‘*Moniteur des Hôpitaux*,’ (1856, No. 24,) states that one of the principal elements of his success in the difficult and dangerous operations M. Maisonneuve is famous for undertaking, is the remarkable use he makes of hæmostatics during their performance. He cites a recent case, occurring in a lad of sixteen, of fungous tumour of the dura mater, the growth of which, after having been temporarily arrested by ligature of the carotid, took on enormous proportions, and was accompanied by exhausting hemorrhages. M. Maisonneuve determined upon its removal, but the tumour bled on the slightest contact, and the patient would not be able to bear the slightest loss of blood. The line of incision extended from the anterior parts of the ear to the summit of the head, and descending along the nose, was carried backwards and then upwards to the base of the jaw, and its point of departure. A great number of arteries were thus divided, five or six of which, by reason of their anastomatic enlargements, had acquired almost the size of the radial artery. Intelligent assistants immediately compressed them with the finger, but it was impossible to thus continue the dissection without exposing the patient to the danger of death from syncope. M. Maisonneuve therefore applied to each vessel a little pledget of charpie, soaked in perchloride of iron, which was allowed to attach itself to the wound. At every stroke of the bistoury or scissors he applied a new plug, so that during the operation the patient scarcely lost a spoonful of blood; and when the tumour had been entirely removed, the entire surface of the wound was found completely dried and tanned, and was at once dressed, without the necessity of the application of a single ligature. The brown eschar which covered the wound was detached about the 20th day, without giving rise to any hemorrhage; and although the cure can scarcely be expected to prove radical, the patient for the present is perfectly well.”—*Med. Chi. Rev.*

To Harden Casts of Plaster.—“Immerse them in a solution of alum, heated to about 84° Fah., and keep them in it for four or five hours. One pound of alum dissolved in five gallons of water, will make the solution sufficient in strength for the purpose stated.”—*Scientific American.*

Removal of Tumours.—"MAISONNEUVE having published cases in which he had removed portions of the upper jaw, in order to get at tumours in the pharyngeal and zygomatic regions with success, now proposes to remove portions or the whole of the lower jaw, in order to get at tumours in the pharynx, tongue and palate: and says that the surgeon is authorized to operate, even where this bone is not diseased, (taking out one-half or any portion of it) when the disease endangers the life of the patient."—*Phila. Med. and Surg. Journal*.

"*On the Treatment of Ranula*, by M. GOSSELIN. (L'Union Médicale, 1856, No. 2.)—M. Gosselin, after alluding to the various modes of treating ranula that have been adopted, and the relapses that are so common after them, describes the plan he has himself found beneficial. He first of all performs excision, as recommended by Boyer, and then cauterizes with the nitrate of silver. Next day he introduces a probe into the wound, owing to its tendency to close, and repeats the cauterization the day after that. On the third or fourth day he enlarges, by means of the scissors, the aperture, which has become too narrow, and on the following day cauterizes again. After ten or twelve days of this assiduous attention, if, on the introduction of a probe, he finds the cavity is obliterated, he leaves the opening to itself. If, however, a track of a certain extent still exists, he again enlarges the orifice with the scissors. This attention to the case is rarely required beyond fifteen days, when the external opening becomes closed, and the cavity being obliterated, there is no fear of relapse. M. Gosselin has operated in this way in several cases, and in three of these, which he has watched for several years, no relapse has ensued, the opening remaining closed. This plan of procedure has also been extended to various analogous cases, in which there is a cavity with secreting walls, having no spontaneous tendency to approach each other."—*Med. Chi. Rev.*

"*Endemic Tetanus.*—Dr. Stilwell contends that there is an endemic influence pervading the eastern end of Long Island, strongly predisposing to tetanus. Not only persons, but all domestic animals, excepting only the dog and cat, are subject to it. The frequent occurrence of the disease renders prophylaxis important; and he has not known an accident occur when punctured and contused wounds had been treated with tobacco and opium—the chances of successful treatment consisting in powerful sedative applications to the wound. He does not mention iodine applications, and believes little dependence can be placed upon active internal medication."—*Charleston Medical Journal and Review*.

"*Legal Responsibility.*—Judge Minot, of Pennsylvania, has laid down the following rules of law, as applicable to physicians:—1. The medical man engages that he possesses a reasonable degree of skill, such as is ordinarily possessed by the profession generally. 2. He engages to exercise that skill, with reasonable care and diligence. 3. He engages to exercise his best judgment, *but is not responsible for*

a mistake of judgment. Beyond this, the defendant is not responsible. The patient himself must be responsible for all else; if he desires the highest degree of skill and care, he must secure it himself. 4. It is a rule of law that a medical practitioner never insures the result. These are received in general as sound views, and such as will govern every enlightened court. There could scarcely be a greater absurdity, than to require physicians and surgeons to insure the result, when they can in no case control all parts of the treatment. Few serious cases are carried through a single day, and many not a single hour, without a violation of instructions, on the part of nurses and attendants.”—*Philadelphia Med. and Surg. Journal.*

Lines addressed to a Skeleton.—“The following beautiful verses were found in the skeleton case of St. Bartholomew’s Hospital, more than thirty years ago, placed there by some unknown hand. Breathing alike the true spirit of poetry and religion, we take pleasure in perpetuating the anonymous production :

Behold this ruin ! ’twas a skull,
Once of æthereal spirit full ;
This narrow cell was life’s retreat,
This space was Thought’s mysterious seat.
What beauteous pictures filled this spot !
What dreams of pleasure—long forgot !
Nor love, nor joy, nor hope, nor fear,
Has left one trace or record here.

Here, in this silent cavern, hung
The ready, swift, and tuneful tongue ;
If falsehood’s honey it disdained,
And where it could not praise, was chained ;
If bold in virtue’s cause it spoke,
And gentle concord never broke ;
That tuneful tongue shall plead for thee
When death unveils eternity.

Beneath this mould’ring canopy
Once shown the bright and busy eye ;
Yet start not at the dismal void !
If social love that eye employed ;
If with no lawless fire it gleamed,
But with the dew of kindness beamed—
The eye shall be forever bright ;
When stars and suns have lost their light.

Say ! did those fingers delve the mine ?
Or with its envied rubies shine ?
To hew the rock or wear the gem,
Can nothing now avail to them ;
But if the page of truth they sought,
And comfort to the mourner brought ;
These hands a richer meed shall claim,
Than all that waits on wealth or fame.

Avails it whether bare or shod,
These feet the path of duty trod ?
If from the bowers of mirth they fled,
To soothe (?) affliction’s humble bed,
If grandeur’s guilty bribe they spurned,
And home to virtue’s lap returned ;
These feet with angel’s wings shall vie,
And tread the palace of the sky !

Virginia Medical Journal.

Nature of Poverty —“ We clip the following very suggestive paragraphs from the report of Dr. Edward Jarvis, on ‘Insanity and Idiocy in Massachusetts.’

“In this connection, it is worth while to look somewhat at the nature of poverty, its origin, its relation to man and society. It is usually considered as a single outward circumstance—the absence of worldly goods; but this want is a mere incident in this condition—only one of its manifestations. Poverty is an inward principle, enrooted deeply within the man, and running through all his elements; it reaches his body, his health, his intellect, and his moral powers, as well as his estate. In one or other of these elements, it may predominate, and in that alone he may seem to be poor; but it usually involves more than one of the elements, often the whole. Hence we find that, among those whom the world calls poor, there is less vital force, a lower tone of life, more ill health, more weakness, more early death, a diminished longevity. There are also less self-respect, ambition and hope, more idiocy and insanity, and more crime than among the independent.

“The preponderance of mental defect and disease among the poor, is unquestionably shown by the comparison of the number of lunatics and idiots in the two classes. None could for a moment suppose that the total of these classes, the independent and the pauper, are in this ratio.

“This is not only a demonstrable fact in Massachusetts and Great Britain, and probably elsewhere, but it proceeds out of a principle which is fixed in the law of our being—that poverty is not a single fact of an empty purse, but involves, in various degrees, the whole man, and presents as many facts as there are elements of our nature that can be depreciated or perverted. Insanity is, then, a part and parcel of poverty; and wherever that involves any considerable number of persons, this disease is manifested.

“When the poor become thus sick and dependent, although friends may, in some instances, be able and willing to step in and meet this expense, yet, unfortunately, they too are generally poor, and the public treasury is the only and the necessary resort for help; and especially when any one becomes insane, the town or the state necessarily assumes the burden. Moreover, as this disease, more than others, is lasting, it would more certainly exhaust any little gathered store of the poor, and the power and the patience of friends; and then, if the lunatic is not at once thrown upon the public, he must ultimately reach that end.”—*Med. and Surg. Rep.*

Rules for Restoring the Drowned.—Drawn up by Dr. MARSHALL HALL, M. D., F. R. S., &c.—“The following rules are the result of half a year’s investigation of Apnoea and Asphyxia—a subject which I propose to prosecute still further, knowing that truth only comes of long-continued labor and research. I wish especially to put to the test of careful experiment, the correctness of the dogma, that if the heart has once ceased to beat, its action can never be restored—a dogma calculated to paralyze our efforts in many cases in which hope may really not be *totally* extinct:

“1. Treat the patient instantly, on the spot, in the open air, except

in severe weather, freely exposing the face, neck and chest to the breeze.

"2. Send with all speed for medical aid, and for articles of clothing, blankets, &c.

"3. Place the patient gently on the face, with one arm under the forehead, so that any fluids may flow from the throat and mouth; and without loss of time,—

I.—*To Excite Respiration*,—

"4. Turn the patient on his side, and

(i.) Apply snuff or other irritant to the nostrils.

(ii.) Dash cold water on the face previously rubbed briskly until it is warm.

"If there be no success, again lose no time; but,—

II.—*To Imitate Respiration*,—

"5. Replace the patient on his face; (when the tongue then will fall forward, and leave the entrance into the windpipe free;) then,—

"6. Turn the body gently but completely, *on the side and a little beyond*, (when inspiration will occur,) and then on the face, making gentle pressure along the back, (when expiration will take place,) alternately; these measures must be repeated deliberately, efficiently and perseveringly, fifteen times in the minute, *only*; meanwhile,—

III.—*To Induce Circulation and Warmth*,—

continuing these measures,—

"7. Rub the limbs *upwards*, with firm pressure and with energy, using handkerchiefs, &c., for towels,

8. Replace the patient's wet clothing by such other covering as can be instantly procured, each bystander supplying a coat, waistcoat, &c.

These rules are founded on physiology; and, whilst they comprise all that can be immediately done for the patient, exclude all apparatus, galvanism, the warm bath, &c., as useless, not to say injurious, especially the last of these; and all loss of time in removal, &c., as fatal.
—*Lond. Lan.—Med. Ex.*

A Chapter of Accidents, Consisting of Sketches of Instances of Extraction of Foreign Substances from the Natural Openings of the Human Body.—By R. THOMPSON, M. D., of Nashville, Tenn.—"A child of about a year was playing with its mother's thimble, and as children instinctively put everything into their mouths, this of course went there, and getting pretty far back and tickling the glottis, a spasmodic effort to vomit threw it above the soft palate immediately behind the septum nares. The family physician was sent for, who, seeing that the child breathed through both nostrils, decided that the thimble had been swallowed; but the mother not being satisfied, two other physicians from a neighboring county town were called in, who, after exploring the nares with a probe and meeting with no thimble, also pronounced it swallowed, and put the child upon acids to dissolve it. But as its sufferings continued to increase, I was sent for. From certain external signs—such as suffusion of the eyes—some enlargement about the root of the nose, &c., I became satisfied that the thimble must be in the nose, and as the other physicians had failed to detect it, I judged it must be in the position I have indicated. I gave my

probe a curb to suit the duct of the nares, and then a side curve to bring the point behind the septum, and asked the mother if the doctors had used a probe of that form? She said they had not. I did this to satisfy her, she being opposed to my probing, as she said it would give the child unnecessary pain, 'as the thimble was not there.' With this instrument I found the thimble at the first effort, and giving the probe to the mother, she too became certain, from the firm resistance, that the body was there, and became urgent that I should immediately extract it. But I knew that it was easier found than removed, and refused to make any effort until the family physician should be with me; who, by appointment, met me the next day. I had prepared a strong iron probe with the necessary curves, square at the end, and ridged so as not to slip when brought to bear upon the edge of the thimble, the only chance being to push it into the fauces and extract it from thence. He undertook the task of dislodging it, while I stood ready with my forceps in hand, prepared to seize it the moment it should drop below the palate. After much difficulty, he succeeded, but the moment it dropped below the palate, the pharyngeal muscles seized it with a spasmodic grasp that the hold of the forceps gave way twice without bringing it—in the meantime the child was dying of asphyxia, the glottis being entirely closed. In this extremity, I threw away the forceps, and thrusting my fingers forcibly into the thimble, and contracting the muscles so as to tighten it, and giving it a twisting tractive motion, was fortunate enough to dislodge it, much to my own gratification, as well as to that of the friends of the sufferer."

"The next case I will mention did not require much skill of execution, but a good deal of presence of mind and promptitude of action. While casually in a neighboring village to where I then lived, while walking down the street, a lady and two grown daughters came rushing out of their house, screaming most frantically, and exhibiting every other sign of intense agony and affright. I knew them well, and demanded the cause of alarm, but failing to attract attention, I at once entered the apartment I had seen them emerge from, and passing on through open doors, at length reached the nursery, where I found the youngest, a fine boy of some six months, lying on the floor apparently quite dead. Perceiving from the color that it was asphyxiated, I suspected that it might be choked, and thrusting a finger into his mouth, discovered a tough mass completely filling up the posterior fauces, and hermetically sealing the glottis. I soon succeeded in loosening and detaching it, and then set up an artificial respiration by connecting its lungs with mine. After a few inflations, I had the satisfaction of perceiving spasmodic efforts at respiration, and by the time its mother had screamed up a respectable crowd to condole with her for the loss of her youngest born, I was prepared to return it to her alive, and change the proffered sympathy into a burst of gratulation. In this case the child had been fed with clammy biscuit, which, by a sucking motion of the tongue, had been plastered upon the roof of the mouth, until by additions it excited a violent effort to swallow, but it was no go—a mere projection from the mass entered the esophagus, leaving the main body nicely fitting over the orifice of the wind-pipe."—*Transactions of the Tennessee Medical Society.*—*Nashville Journal of Medicine and Surgery*, June, 1856.

Treatment of Hare-Lip.—By R. G. H. BUTCHER, Esq.—“A good deal of diversity of opinion prevails as to the best mode of dealing with the projecting maxilla and the detached central osseous piece in cases of complicated hare-lip. Some of the very highest authorities recommend cutting off the projecting piece. Sir A. Cooper says, ‘when the jaw itself projects, the common preliminary step to the operation consists in cutting away the bony prominence.’ Chelius likewise inculcates this precept in the following passage:—‘If there be a bony growth in the cleft, it must, after the skin covering it has been raised, be removed with the nippers.’ And again, ‘If the incisive teeth project, they must be extracted, if of the first set; but if of the second, it must be attempted to give them their proper direction by continued pressure, and if this be not possible, they also must be extracted.’ On no account, in my opinion, should the projecting maxilla be cut away. In the youngest infants I have cut it back, rupturing its elastic structure, and, in more advanced life, after Gensoul’s method, breaking it with a forceps and thrusting it back, and after either experienced but little difficulty in steadying the piece in its new berth. There is no doubt that in very young children, if pressure be steadily kept upon the part for a lengthened time, it will be got back. Desault effected this object by bandage, and in Cooper’s Surgical Dictionary is a case where the author was successful ‘by a spring truss worn daily for several hours.’ But these methods become tedious and irksome both to surgeon and patient, and are not always effective. Other surgeons slice away the most convex part, or the outer laminæ of the projecting maxilla, the only object attained by this proceeding being the support afforded to the lip, but the teeth are for ever absent. So anxious am I to preserve the teeth in these cases, even when irregular, that I twist them with a forceps into a more seemly and better position before I break back the bone. When a central osseous piece projects, containing the incisor teeth, every effort should be made to save it. In one instance I adopted a novel method, and succeeded, which I trust may be practised by others, where the parts are similarly circumstanced. This portion, when so very prominent, must be got back or taken away to allow the soft parts to be united; therefore many surgeons, Liston, Ferguson, and others, take it away. If the attempt be made to push it back, the stalk breaks, and in many instances, having no support, it falls down towards the mouth, below the alveolar range. Even in this unpromising state, the following measures may be tried. The edges of the central piece, almost always covered with a structure similar to the gum, being pared, as well as the anterior margins of the maxillæ, a strong needle should be thrust across (or a hole drilled for it) from one maxilla to the other, traversing a central piece; the ends should be clipped off as close as possible, and a few turns of silk thread thrown around to retain it in its berth: a bit of lint should then be put round each end to save the cheek from being irritated; after a few days the needle might be withdrawn and the remaining steps of the operation proceeded with; or I would have no hesitation in putting across the three portions of bone a metallic thread, as recommended by Flau-

bert, of Rouen, after a resection of the ends of the humerus in non-consolidated fracture of bone, and at once completing the operation.

“As to the position in which the child should be placed for operation, I prefer the semi-erect posture. In this position the infant can be held, firmly rolled up in a sheet, in the arms of an assistant, and its head steadied in the most perfect way by a second. If the child be more advanced in years it should be secured in a chair by a few additional turns of a sheet. By this position the blood is prevented streaming backwards to the throat, giving rise to violent coughing and struggles for air; and the parts being more under the command of the surgeon, he can accomplish the necessary steps with the greatest possible accuracy, precision, and rapidity.

“I have never availed myself of the anæsthetic agency of chloroform in this operation for hare-lip, for the following reasons:—I consider it impossible to measure the exact amount, so as to dull the sensibility of an infant, without risking the annihilation of the protecting influence presiding over the glottis; thus leaving it to chance whether blood may not trickle down, and suffocation ensue. In the child more advanced in age, if the chloroform be not given in sufficient quantity to produce its full effect, an increased violence and restlessness is invariably consequent upon its use. Once for all, I repeat, the risk is too great for its adoption.

“I have endeavored to apply cold, after Arnott’s method, in these cases, so as to freeze the parts and destroy their sensibility before cutting—a practice which I have found most valuable in other operations; but I had a deeper object in view—that expressed and dwelt upon in the paper referred to, namely, to bring into operation ‘*the healthy action aroused in the part after its use.*’ But in these instances I have been compelled to desist, from the great pain occasioned by the process of congelation, after a few minutes; indeed the child’s cries and struggles to get free were as vehement and forcible as during the most protracted operation. Therefore I have, with some reluctance, relinquished it as a means that cannot be employed.”—*Ext. Dublin Quarterly Jour.*)—*Braith. Ret.*

“*Tempering Steel Tools.*—Great care and experience are required in tempering tools, because they are so liable to crack when plunged into the cold water bath. When they are heated to the tempering point, which is known by their color—yellow for a hard and blue for a soft temper—their surfaces should be rubbed over with a paste of the prussiate of potash, before plunging them into the water. File makers raw their files, after they are taken from the fire, through the lees of beer or a mixture of salt and the hoofs of animals ground into powder, before they immerse them in the water bath. Some tool makers dip their tools in strong soapsuds, before plunging them into cold water. Steel rollers are tempered by heating them up to a red heat, then covering their surface with a paste of prussiate of potash, and placing them in the cold water bath. Steel rollers are very difficult to temper. The liability of steel articles to crack in tempering is owing to the sudden chilling and contracting of the molecules at the surface, while the interior molecules are still expanded and hot. To prevent this

evil, the coating of the surface of tools with soap, grease, prussiate of potash, &c., before plunging them into the cold water bath, has been found successful in practice, but the reason why is not very well known."—*Scientific American*.

For the Dental News Letter.

BALTIMORE, December 25, 1856.

DR. J. R. McCURDY—*Dear Sir*:—Yours of the 23d relative to "Dr. Blandy's improved method of mounting teeth," is just received. I reply immediately, so as not to delay your printer; and briefly, that I may not engross too much of the "two pages" yet to be set up.

I have seen the CHEOPLASTIC* process, as conducted in the office of the inventor, and have made trial of it in my own practice. I regard it a very reliable improvement, and one which must ultimately enter, more or less, into the practice of nearly every dental mechanician. I say *nearly*, for there are those who are averse to move out of the beaten track; those who, anxious for improvement, remember, like a burnt child, the last novelty, and those who sedulously keep their professional reputation clear of that Upas tree, the patent office.

I have neither time nor space for any description of the details of this process. An improvement upon the old "Block Tin Base," it claims to be entirely distinct therefrom, and susceptible of a much wider application. From a full lower set, to a single upper tooth attached by clasps or atmospheric pressure, it may be used with plate teeth, gum teeth or blocks.

It commends itself from its economy in cost of materials; economy in what is more than money, time; absolute accuracy of fit, cleanliness from absence of any spaces where food or secretions can lodge, facility of repair, absence of any of the ordinary contingencies, such as shrinkage of metallic dies, warping of plate, and breakage of teeth in soldering or repairing. Not least in importance to the practitioner remote from cities or depots, is the ability to keep on hand at small cost, all the material for many pieces, and all the appliances necessary which are very simple, without either much bulk or weight.

It will be found a very secure method of mounting block work. In gum teeth the tediousness of fitting each tooth to the plate is dispensed with, lateral jointing only being necessary. Single teeth without gums may be mounted with great facility. In point of strength it compares with any kind of work. Its weight is between that of gold and continuous gum work. Its durability must be tested by time—a test which I feel very confident it will stand; for I know of no agencies calculated to weaken its first strength, which I have found to be very great.

Hoping that these few hurried comments may for the present suffice, I promise, should you desire it for your next issue, my views more *in extenso*, on what I consider a very important addition to the resources of dental art.

Very respectfully yours,

PHILIP. H. AUSTEN.

* From *παι* to *pour*, and *πλασσω* to *form*; the plate being cast, not swaged, as the usual method. The *CH* pronounced hard.

THE DENTAL NEWS LETTER.

VOL. X.

PHILADELPHIA, APRIL, 1857.

No. 3.

VALEDICTORY ADDRESS,

Delivered before the Graduating Class of the Pennsylvania College of Dental Surgery, February 26th, 1857.

BY PROF. E. TOWNSEND.

GENTLEMEN:—The Faculty of the Pennsylvania College of Dental Surgery, have awarded you their diploma. Regularly indoctrinated in the Science and Art of our profession, you are now, by the ceremonial of this day, formally admitted to the honors of the doctorate in Dentistry, and I am commissioned by my colleagues to bid you welcome to the ranks of the fraternity.

To you, this hour is an epoch in the history of your lives; to us, it is another recurrence of that incident of our professorial experiences which puts a period to the pleasant relation which we hold to the pupils of the institution.

You cannot say farewell to us, we cannot send you forth to the fortunes which await you, without experiencing emotions of regret at the severance of the bond, mingled with the pleasure of the accomplished purpose of the temporary relation. To you, it is the achievement of an honorable aim; to us, it is the fulfillment of an anxious service; to both, it is a stand-point for retrospection and anticipation; and, it is because only a brief hour is allowed to the mingling of the past and the future, which meet in the great change, that we instinctively cling to it; as nature prompts the heart to linger over the moments in which we die to the old and are born into the new. It is true of such transitions as this, at least, that

“Our birth is but a sleep and a forgetting;
The soul that rises with us, our life's star,
Hath elsewhere had its setting,
And cometh from afar;
Not in entire forgetfulness,
And not in utter nakedness,
But trailing clouds of glory do we come.”

The life that opens upon you to-morrow will carry through all its incidents such tracery of that which you have laid down to-day; it will be a grateful retrospection to you, and we will fondly claim our

property in that light, which, kindled here, shall shine through all your future fame. Happly, in those moments of good fortune which shall reward your devotion to the duties of your novitiate, recollections of our efforts for your service will kindle "the light of other days around you," and the reflected honor will come back to us, and be welcomed as the richest guerdon of our endeavors. But, while we say the farewell, which expresses the proper feeling of this change of attitude to you, we only sunder the tie of collegiate light to receive you into the more enduring and more equal relation of professional fraternity. We turn our backs to the past only to adjust ourselves to the aspect of the future. But, ere we make this parting for the purpose of that meeting, let us hold you a moment in the embrace that is about to unclasp, and speak to you from the urgent fulness of that feeling which has so long been charged with the discipline of your student-life, and the dependent interests of all that lies before you.

You have graduated; and from the nature and method of the studies and discipline in which your diploma certifies your proficiency, you are, not only in our judgment, but in your own consciousness, well qualified to enter immediately upon your professional duties. The system of dental education, both private and collegiate, really answers its intention and the pupil's hope; and he is not left to the risks and trials of a second self-instruction, to qualify himself for the duties he assumes; he is a dentist in fact, ready for service, as well as a doctor in dentistry by privilege of parchment.

The training of the laboratory and dispensary have made you practitioners as well as professors of your art, and your own independent practice in expectancy will be a success from the beginning, and an assured development of your competency by all the opportunities which it will furnish you for observation and experience.

Our diploma means all that it says; and we are happy in the confidence that it invites not a jot more of credit than it deserves for you from the public who are to be your patients. The teachings of the several chairs of the college are the demonstrated truths of the art. You have tested them largely to your own conviction of their certainty; and the method of indoctrination being exactly that of the inductive system, and tried at every stage by the tests of practical use, you need no other guide for your growth in professional knowledge than the system by which you have made your present attainments. If, however, you have reflected at all upon the relations of dentistry to the collateral branches of natural science, you have perceived that while it is an integral system of theoretical and practical truths, every

way adequate to its own objects, it at the same time holds all the branches of remedial medicine and surgery tributary to its uses, and from them is capable of drawing continual contributions in the proportion that they may be employed. I therefore need not pause to justify an earnest exhortation to you, to push your inquiries freely into all the regions of knowledge which environ your own proper field of observation and thought. As childhood grows into maturity, and manhood strengthens into a constantly growing efficiency, so you should add daily to your own stock, and the profession's stores, from the unwrought mines of useful learning. Instruction more specific for the studious endeavor after higher attainments I need not offer you. The faculty have withheld nothing which they could communicate, and they profess and teach nothing which they do not know. You are privy to the whole mystery of their profession, and conversant with its modes of acquirement. You must improve all this for your own advantage, and whenever you are so fortunate as to discover *more*, then you must reciprocate the service which we have rendered, by improving our science, and us in return. If you are not already as skillful as the best, you know how to become so; and so our account with you, as your teachers, stands conscientiously squared.

To those who are accustomed to the valedictories of the schools of general medicine, these declarations may seem either over bold in their assumption of your proficiency, or, perchance, a little under par in their estimate of professional requirements.

My answer is, that they are neither.

They are warranted against all objection by the simple fact, that our specialty has the advantage over all the systems of education in the remedial arts, that it does not attempt the unpracticable project of teaching half a dozen professions in the time required for the acquisition of a single one; but that, making all collateral branches of knowledge duly subsidiary to the main design, it has room and verge enough to fairly fulfill its utmost promise, and so escapes the complexity and confusion which in some measure defeats the pretensions of its sister branches of the healing art, and the humbling necessity of confessing a sufficiently obvious incompetency. If surgery only were taught, and thoroughly taught, to its students, both in theory and clinic training, and practice and institutes of medicine in like manner, making the auxiliary branches of these respective arts properly and duly subsidiary to each, as it demands, the method of the schools would be as logical and successful as ours, and might speak to their graduates with all the just confidence which we are warranted by our better method in using toward ours.

Dismissing this common topic of commencement addresses with these general reflections, for the reasons we have assigned, let us turn to the other themes which the occasion and the feelings that belong to it suggest.

You are about to enter upon a responsible practice, and to take upon you duties to your patients, your profession, and yourselves, which demand *other* qualities than those which enter into a technical education ; qualities not derived from text-books, nor acquired in lecture rooms, and yet as necessary even to professional success as anything and all the things which these have to impart, and of the very essence and substance of a still higher style of success than all other shapes of good fortune can bestow. I speak of those principles and habitudes of professional life which arise from and enter again into the moral character of the individual ; while they have their occasions and objects in his business avocations.

The first and last, the entire complement of these virtues, is *honesty*, in its manifold significance. Its influence is equally effective for the best means and ends, to yourself, towards your patients, and the fraternity to which you now belong.

As it respects yourselves, it means that sincerity and earnestness, that simplicity of truthfulness and completeness of integrity, which will give you the greatest available force of all your faculties and insure their best rewards. It will give a religious dedication of all your powers to the duties which you are charged with ; and by commanding all your energies, will employ them in the effective development of your professional abilities. *Every man's* actual life is determined by his individual character. Conformity to conventional standards gives him his *seemings* only. His drift and destiny are the proper issue of his principles. No man ever had the *whole* force of his faculties, who employed any *part* of their energy in appearing what he was *not*.

The friction of hypocrisy, counterworking his real purposes, balks the aim and enervates the effort. Conscious dishonesty is a sad destroyer of the health and inspiration of ambition. Keep your loins girded with integrity, that you may have the full force and virtue of all your mental energies. To this end, reject the fool's wisdom of the maxim that teaches distrust in other men's sincerity, and naturally induces the rogue's policy of counteracting their devices by a defensive dishonesty. It is not true that your patients must be deceived, and your brethren overreached, in order to your own success. Your fortunes, to stand securely and grow prosperously, must rest upon your

own *strength*, and not upon other men's weakness. You must fairly excel your neighbor, if you would in any way transcend him; remembering that time and chance are, in the long run, always in favor of the right; and that the right is safe against all surprises.

In your practice you will be tempted by every fault and feebleness in you to attain success by evasions, pretences, and the thousand petty arts by which indolence and incompetency endeavor to conceal deficiencies. Be sternly honest here, as a rule of educational discipline, if for no higher reason. For, the man who *substitutes* a dodge for a duty will never reach the competency for its performance. You can never grow by the endeavor to conceal your defects, but by the sincerest endeavors to amend them. Never say to yourself, "How shall I make this imperfection of my service pass for *good*?" but set yourself the more hopeful and better task of removing it.

Sincerely, to yourself, at least, admit the fault, if you would hope to mend it. If a professional man would but once ask himself who and what it is that he deceives, when he practices upon the credulity and ignorance of his patients, and fairly face the answer, the very meanness of a trick would drive him from its practice.

He is a coward who takes odds against an open foe; but what is he whose petty villainies are perpetrated upon those who trust his honor and fidelity? The man in our profession who will slight an operation, or neglect an advantage of his patient, for his own convenience or profit, will find himself at last not practising his art, but *artfully* practising its rogueries upon his patients; and will succeed most certainly in being as *mean* a dentist as he is a *man*. An acquaintance of mine, whose energy of English tells fairly upon the fault which I am censuring, in describing a dentist of great natural abilities and ample opportunities for excellence in practice, concluded an admiring description of his talents with the reason for his failure in the profession, by saying, that he had not honesty or earnestness enough to whittle a chip nicely, though he was a natural born sculptor; and, although he had the skill to fill a tooth which would be the despair of the most expert practitioners, he never in his life made a plug water-tight.

But it is not such gross degrees of negligence as these that I am now aiming at; it is those lesser faults of indifference to, or avoidance of, the more delicate and perfect strokes of execution, and of the nicer observations on which they depend, which I would have you regard as the impediment to professional excellence. Make the care of these a duty to your patients; feel it with all the sacredness of an honorable obligation, and, in the endeavor to discharge it you will find an edu-

educational inducement and influence which will surely lead you to the heights of professional eminence.

Dr. Johnson ascribed the excellence of his memory to his anxiety to tell the truth in all matters that fell under his observation. This solicitude to *report* truly and exactly, prompted to accuracy of examination and strictness of attention, and his mental faculties gained all the corroborative strength of his moral earnestness. In like manner one of the most eminent of our lawyers ascribes his success in his profession to the fact that he always gave as much attention, and as conscientious care to the trial of a five dollar case before a Justice of the Peace, as he now does to a land title involving thousands of dollars in the verdict.

Men, in their conduct towards others by whom they are intrusted with important agencies, act from mixed motives, and it is not always possible to distinguish the principal impulse from its auxiliaries. The sense of duty should be the central and controlling one; but fortunately for us, those which best contribute to our own progress and aims, and comport with our own dignity and self-respect, harmonize happily with our social obligations, and may well be admitted to their share of influence. Honesty is the best policy, whether the culture of our own powers, and the advancement of our own fortunes, or the best discharge of our social duties, or both, are aimed at. Shakspeare spoke an oracle of practical wisdom and moral truth, when he said,

"To thine own self be true;
And it must follow, as the night the day,
Thou canst not then be false to any man."

I dwell upon professional honesty, simplicity and sincerity, and press their value upon you, not so much as a means of attaining moral excellence, as for their disciplinary use in the culture of your art. The secret of their agency for good in this respect is referable, I think, to the power of *habit*, which, you will come to know, has its force as potentially in the mental faculties as in the automatic movements of the body. Attention, care, exactitude, acuteness in thinking, are as much within its educational influence, as are the skill and force of the hand in the execution of its tasks. Mind, acting through the organism of the body, is the subject of those laws which rule the physical structure, and its training falls under the same rules of exercise.

Moreover, niceness of discrimination and perfectness of operative execution, mutually react upon each other. For example, in the branch of dental orthopedia; the hasty, negligent and indifferent operator will never know or believe the resources which our art sup-

plies, nor obtain an available knowledge of the wonderful plasticity of the textures he is dealing with. Irregularities, absolutely monstrous, are quite within the control of patient skill; and accommodations of the vital laws of the organism are possible which our sister art of surgery scarcely dreams of, because in its dashing dexterity of mutilation, it too seldom pauses to learn all the corrective energies of nature. The man who will not practise the most infinitesimal niceties of management, and watch their slowly evolved effects through months of careful treatment, will remain forever ignorant and incapable of the finest knowledge and best effects of corrective skill in such cases. This is true also in the branch of dental prosthesis. The keen and clear perception of an artist is required to adapt and set artificial teeth in happy correspondence with the physiognomical characteristics of the patient; one of your habitually well-enough sort of operators never troubles himself with the distinctions on which excellence in this service depends. He thrusts a set of well-shaped, shining, handsome teeth into a prognathous jaw, that caricature the rugged, sallow countenance by the contrasted dandyism of his porcelain; or he misses the peculiar delicacy of the constitutional make and mannerism of his subject, by an ill-absorbed ferocity of mandibles in the mouth of a milk-sop. When I have seen such inexplicable dumbshows of grinning crockery, I have sometimes felt with Hamlet, that "I would have such a fellow whipped for o'erdoing Termagant; it out-herods Herod; pray you avoid it." "And be not too tame neither, but let your own discretion be your tutor; suit the incisors to the features, the features with the incisors; with this special observance, that you o'erstep not the modesty of nature." Our profession, like that of surgery, is an art with a score of sciences for its directory; and the man who runs it off in practice as a routine of job-work, is not only unworthy but soon becomes incapable of its functions. For all the reasons, therefore, which concern yourselves and your plighted faith to your patients, be honest, earnest, ardent, in the treatment of every case submitted to you.

But you owe your *profession* something, also; for your attainments are now an inheritance bequeathed to you by the skill and conscientious care which I am urging you to emulate. There is a region of shadows bordering the cultivated province of the profession, which it is your duty to clear and bring into the light of science. It is in your commission to push the horizon of professional attainment far beyond its present boundaries. Doubts are to be resolved, principles to be verified, practice to be adjusted, and improvements and extensions to

be effected in all directions. If you accomplish nothing under this trust, the delinquency will be chargeable more to your lack of earnestness than capacity; for it is quite impossible that a multitude of variously endowed minds, vigorously exerted, shall not cast streams of cross-lights upon the dark places in our art, which will open them to observation. Push your inquiries specially in the direction of hygienic or preventive, and restorative treatment, with the aim of avoiding mutilation, and substitution of the natural organs. The man who discovers the means of preserving a tooth now condemned to extraction, makes the profession his debtor, and justifies the highest claims that his ambition makes upon the public. Take the noble enterprise of bettering your chosen department of remedial practice to your hearts, and you will reap a harvest of public honors, and garner them in your own consciousness of deservings. I have nothing to say to you upon the immediately pressing subject of the means of gaining and losing practice, which does not directly follow from what I have already said upon your professional conduct. I have a quarter of a century's opportunities for observation, but I have learned no rule of success in acquiring business but one, and that is, take care to deserve it. Allow no promising artifice or effort to contravene this rule, no policy to supplant it. Carry with you into the treatment of every case the clear understanding that there are two parties equally interested in it, and two species of compensation for its fair performance. First, the patient is not a whit more interested than you are in the best exercise of your skill; work equally well for both, at least bend all your energies to your own advantage, and never suffer any unworthiness of the other party to hinder you from making the most of it for yourself; for, recollect, that only one, and that by far the lesser reward, is the money fee that you are earning; the other and better, and ultimately more profitable, is the investment you are making in an enviable reputation. This stock pays largely in hand in the shape of enhanced skill, and insures handsome dividends in the future. I think you will not find much difficulty in effecting a suitable location for your business prospects. Such dentistry as you are capable of is everywhere required. Its want is urgently felt and well understood in the community, and almost any region of the country offers as fairly for pecuniary success and professional eminence as the cities of the seaboard. The unprofessional public are better judges of our services than they are of any branch of general medicine, and its practice is infinitely less deformed and damaged by quackery. You may rely upon a tolerably adequate judgment of your performances, and a fair appre-

ciation of them by your own patients. Only make them know the resources of the art, and your skill in their application, and a handsome success is yours at command.

Standing in a position which affords a good outlook upon the field of your prospects, I speak advisedly when I say that I have no fears *for* any candidate for success, where I have no fears *of* him. Such, and so strong as this, is my confidence in the welfare of the deserving, and for this reason, I am so importunate in urging the value of those personal qualities on which I believe success so eminently depends.

I have but one word of caution to add. You are dentists in purpose, pursuits, and engagements; you are nothing else, and must involve yourselves in nothing that can interfere with an unreserved dedication to your profession. You may be scholars, and you must be gentlemen; for all this contributes nobly to your objects. But take care of the diversions, the incongruous tastes, pleasures, and involvements that lie in wait to beguile you from your pathway. The practice of every private virtue, and the performance of every social duty which an honorable position in society brings with it, will rest upon you. Be faithful in all these things; they will give you health of mind and body, and will be found in experience to be like "godliness, which is profitable unto all things, having the promise of the life that now is, and of that which is to come."—Tim. 1: 48.

We commit you to your destiny; we commend you to the care of Providence. Our sympathies go with you to your work in the world that lies before you. We expect the fulfillment of our best wishes for your welfare, and we give and claim our share of interest in it, till the seeds sown in hope shall be harvested in joy.

DECIDUOUS TEETH, AND THEIR PREMATURE EXTRACTION.

Mr. President and Gentlemen Alumni Philadelphia College of Dental Surgery:

Truly, in my case, has an old aphorism been fully confirmed—"procrastination is the thief of time." Having purposely deferred any preparation, till late in the season, to afford me sufficient experience to prepare a paper for your consideration, I found the time which I had purposed devoting to that object, so closely occupied with what I hope may always be your experience, viz: *several cases on hand*, that had it not been for the positive announcement, made at our last meeting, that these documents were not received as compliments or favors, but rather exacted as obligations, I'm inclined to think that in this the eleventh hour, I might have been tempted to advance an apology for non-compliance with the appointment. But to the subject:—

Observations on the Deciduous Teeth, and their Premature Extraction.—There exists, probably, no portion of the dental economy less fully comprehended by the public, and even by our profession, than the deciduous teeth and their treatment. These little pearls, making their appearance through the gums, unless prematurely or improperly interfered with, invariably, in a regular arch, imparting beauty and expression to the features, and establishing a perfect frame-work for the preservation of the correct proportions of the little jaws and their integuments, during early childhood, have just begun the first of a series of offices assigned them to perform.

In view of their relations to the dental system, in preserving the tender arch from contraction,—how much the present health of the child depends upon their retention and freedom from caries in the proper comminution of food, and its mixture with the saliva, afterwards to be acted upon by the gastric juice,—to promote digestion and assimilation, and the inevitable irregularity and consequent decay of their permanent successors, occasioned by their premature extraction, is it not painful to observe that so little care and attention is bestowed by parents on these precious organs, so frequently ruined by their negligence and ignorance? And it is even more painful to concede that in the profession itself, we are at a loss to know precisely how to proceed (in many cases) toward a successful treatment.

Parents daily bring their little ones to us, and frequently tell us that they have been in the habit of removing the little organs themselves, because of looseness or from some other cause, and desire us to extract more, which, probably, were too firmly embedded in their sockets, to risk removing themselves. They will tell us, moreover, they have never paid any attention to their children's teeth. There were so many of them in the family, or, indeed, it was so much trouble, and the like. It would shock their sensitive feelings, should we intimate that they did not pay proper attention to their children's cleanliness of person to make them healthy and vigorous, and yet, should we apply the same language with reference to their teeth, they would tell us they did not think it necessary. In truth, they manifest entire ignorance on the subject. On examining the little mouth, how frequently we find the first permanent molars in a ruined condition, in many instances beyond recovery, and when you state the necessity of immediate attention, to preserve those which have not progressed too far in decay, the parent will remark, that the child has never shed those teeth, they know it from observation, and there is no use to fill them now, as they will soon be replaced by others. The question arises,

what duty do we owe the public concerning this subject? It occurs to me, our duty is not simply to state what is required in their case, and let them go from our presence if they do not concur with us, feeling that we have performed our entire duty; but we should endeavor, rather, to instruct them, and whenever the opportunity is afforded, make them sensible of the importance of their children's teeth and the duty they owe them in that connection; dispel their erroneous ideas, and impress upon them the necessity of having them regularly examined at stated periods by their dentist.

We, as a profession, have much to acquire, relative to a proper understanding of the teeth under consideration, to guide us correctly in our practice, and it is a subject which may well claim our attention. The loss of one of these little organs, before it has accomplished the part assigned by nature, from whatever cause, is a serious evil, and when we are called upon to operate in such cases, either for extraction or for the relief of toothache, how often it occurs, that we are sorely perplexed, after repeated efforts to allay the pain; we are finally, in many cases, compelled to resort to what we believe to be evil practice—the extraction of the tooth or teeth. Here is a point requiring nice discrimination. In my own limited practice, I must candidly state, there are no cases that cause more anxiety and uneasiness, and where I am more at a loss to know how to proceed properly, than in that just referred to, where may be one tooth, or several teeth contiguous to each other, their nerves actually exposed, and the little sufferer enduring torture from the effects of it.

In several instances, after resorting to different remedies, affording only temporary relief, I have been compelled to extract the teeth. It may be true, the parent is censurable in a measure, for this condition of things, by overlooking the case until it is too late; admitting this, the evil yet continues to exist, and what can we do to control this, and avoid sacrificing the organ. Much we have acquired concerning the proper time to remove the temporary teeth, when nature has failed to perform her office; but when we find the teeth in the condition referred to, when every remedy fails to procure relief, *what, I ask, are we to do?* If we destroy the nerve, we leave the periosteum liable to an attack of inflammation at any moment; if we extract the tooth, the condition of the case is in nowise improved, as by the necessary contraction of the jaw, we interfere with the proper arrangement of the permanent successors.

We have much to become familiar with in pursuing this subject, as doubtless two-thirds of the cases of dental caries in the permanent

teeth, are attributable to misdirected practice in the treatment of the temporary teeth.

In conclusion, Mr. President, I would call the earnest attention of the gentlemen comprising our Alumni, to this subject,—hoping they may become better acquainted with it than I am, and that they may be prepared to impart to us some conclusions concerning it, better calculated to interest and instruct.

Respectfully submitted,

DANIEL M'FARLAND.

Washington, D. C., February 24th, 1857.

For the Dental News Letter.

IRREGULARITY OF THE TEETH.

We referred, in our last article on this subject, to the fact that the majority of cases of irregularity was the result of premature extraction of the deciduous teeth; we referred only at that time to the front incisors, but the same rule applies to the rest of the deciduous set. The cuts then given, did not well illustrate our cases, but it was discovered too late to have them corrected. It is a very beautiful operation to correct a difficult case of irregularity of the teeth, but it is, in our humble opinion, a much greater triumph of skill to prevent its occurrence. Every writer censures the parents for not attending to their children's teeth, so that such cases shall not occur, but the truth is the other way; if neither the parent or the dentist meddles, except in plugging the first set, irregularity rarely occurs. If the student will refer to "Fox & Harris" on the "Diseases of the Human Teeth," plate 12, he will find twelve beautiful drawings illustrating conclusively what we are trying to teach; that is, if you extract the temporary lateral incisors for the front permanent incisors, instead of letting the front temporary ones remain, until there is space for the permanent, without removing the laterals, that you will in like manner be compelled to extract the temporary canines for the second permanent laterals; and then, in due course of time, you will be obliged to extract the first deciduous molars for the canines, in case the canines should come before the first bicuspid; but this is rarely the case, because in the order of development, the first bicuspid erupts a year or two before the second canines, and as is always true in this case, the permanent lateral incisors approximate the first deciduous molars, and when they fall out, or are extracted, the first bicuspid and the lateral incisors close so much as to shut out the permanent canines; and then the next step is to extract a bicuspid, or, which is worse, and as many operators have done, extract the permanent canines, and say that it is necessary, because there are too many teeth in the jaw. In the drawings we refer

to, this will be found to be true; and then follows, in the same work, many ingenious contrivances, to correct many of these evils. We should think that the history of this matter, as given by the work, would be sufficient to convince any one of its error. How can the community be censured for this? Surely if the practice referred to is persisted in by the profession, the community will ever furnish cases of too many teeth and irregularities, and be chargeable with ignorance in regard to their children's teeth. We are at a loss to know how to correct this state of things, when we see this practice followed by men who claim to be M. D.'s, and by those who hoot at the idea that an M. D. knows as much about dentistry as a *well-educated dentist*. It is also difficult to explain how a man of several years' practice, and who has attended a course of lectures in a Dental College to complete his education, and who has been shown a score of casts to prove the error of the practice, should extract a deciduous canine for a permanent lateral incisor. It is not often that the arch enlarges as rapidly as the second teeth erupt, or that some of the cutting edges or cusps of the second teeth are out of line, and seem to indicate the propriety of extracting a neighboring tooth, but we can well understand how a parent or a young and ignorant practitioner would not have sufficient courage to trust to nature to finally correct what is only a temporary irregularity, a thing which is only incomplete development; nor can we comprehend why an old practitioner does not learn better by his bad practice, and from the mischief constantly under his eyes; or a young man who is supposed, by his diploma, to possess a correct knowledge of his profession. This would seem to argue that education and experience is useless, and that a correct knowledge is only the result of accident. We know very well, that men who have practiced for thirty years, are extracting the deciduous canines every day, to make room, as they call it, for the lateral incisor. A short upper lip, and a projecting chin, and a depressed superior arch, is characteristic of American people who have paid attention to their teeth. How many persons present this appearance, if we will but observe, from forty years of age down to twelve, and many attribute it to a family or natural expression; but if you will examine such cases, you will find, in the majority of them, that there have been more teeth extracted from the upper than the lower jaw. It is not possible for adult teeth, when first they erupt, to occupy a regular arch in a small jaw, or as we may say, a deciduous jaw; the jaw continues to grow in the neighborhood of the teeth for some time after their first eruption. It is not true, as has been said by Hunter, that the jaws only grow from the condyles, because if such

were true, there would never be space for the second canine; because if we examine the position of the germs or caps of the permanent teeth, at the age of six or seven years, we will find that the lateral incisors and first bicuspid, touch each other, except a thin partition of bone, and the cap of the canines lie over and below the space, and they still occupy that position, if the deciduous canines be removed for the permanent laterals; these three teeth, the lateral incisors, the canines, and the first bicuspid, form a perfect triangle, while imbedded in the jaw, and it is only by the swell of the arch at this quarter that causes them to ever assume a different position, and which can only take place by persisting to retain the deciduous canines, until such change has taken place. This is the key to the whole subject, and only goes to show how difficult it is to carry one's knowledge from the consideration of the dead to the living subject.

J. D. W.

OBITUARY.

Departed this life, in Canton, Miss., on Monday, 24th September, 1855, of yellow fever, DR. YOUNG W. LEWIS, aged 47 years.

The subject of this brief and imperfect tribute was so well known in this community, that the bare mention of his name—now that he sleeps beneath the clod of the valley—is sufficient to awaken the sigh of regret in the hearts of hundreds of admiring friends.

The deceased was a native of Newton county, Georgia, and resided several years in Augusta. He removed in 1837, to Madisonville, in this county, and subsequently, in 1841, to this place, where he practiced his profession of Surgeon Dentist, to the time of his death. In his vocation he was eminently skillful, and his success was commensurate with his eminence. He, however, acquired but little more than a competency, being devoid of that characteristic, which is regarded by some as the greatest worldly wisdom—the peculiar faculty of hoarding earthly treasure. He was, on the contrary, liberal and generous to a fault; and no man in our community gave more, or more unostentatiously, to all charitable and benevolent objects, and to enterprises of a public character, than he did. He was truly a public-spirited citizen, and was always foremost in setting on foot and carrying out works for the common weal. He was a member of no church, but a friend to all;—his religion was, “to do unto all men as he would have them do unto him,”—and he lived as squarely up to this “golden rule” as any man of any sect. So fully did he practice this cardinal virtue, that the writer believes he had not an enemy in the world. He was of a cheerful, amiable and social disposition, and was not only negatively but affirmatively popular. He won upon the confidence and esteem of his fellow-men, not only by the possession of all the qualities that ennoble humanity, but also by putting those qualities actively into practice and doing good. Being admonished by declining health, that his days upon the earth could not reach the maximum of years allotted to man, and that he should endeavor to increase his worldly store, for the maintenance of a large and dependent family, he was induced last

spring to present his name to the citizens of Madison as a candidate for County Treasurer, to which office, (without any disparagement to his late young and lamented competitor,) he would doubtless have been elected by a large majority. His integrity was proverbial, and his honor as fair and spotless as the Alpine snows thrice bleached by the Northern blast.

As a husband, he was all that the most exacting heart could wish; as a father, he was fond and deeply devoted; and as a citizen and dentist, his loss to this community cannot be repaired.

To those who knew the natural cheerfulness of his disposition, the change that came o'er the spirit of his existence during his last days on earth, was lamentable to behold. His life was made dark and desolate by the sudden and altogether unexpected death of his beloved wife, Mrs. CAROLINE LEWIS, a most estimable lady, beloved by all who knew her intimately,—who was the second victim of the pestilential fever, and who preceded him to the tomb but 18 days. Their dear little girl, CALIFORNIA, the youngest of three interesting and promising daughters, followed him to the insatiate grave in 17 days!

The lamented and beloved trio sleep in their narrow beds in our church-yard, sincerely mourned by a large circle of relatives and warm and sympathising friends. There may they rest in peace till the morn of the resurrection, when the archangel's trump shall call them to "the blest eternal home."

B.

For the Dental News Letter.

DR. HARVEY BURDELL.

Dr. Harvey Burdell was born in the village of Herkimer, State of New York, March 11th, 1808.

While he was yet a child, his parents removed to Sackett's Harbor, where he remained upon a farm until he was thirteen years of age, when, without a dollar to aid him, he resolved to educate himself. He accordingly entered the Academy at that place, and by industry and perseverance, worked his way through.

His Academical studies completed, he adopted the printer's art; but, after a short engagement with the village publisher, who did not advance him as rapidly as he desired, he left with but a shilling in his pocket, and from a printer's devil arose to the position of Assistant Editor of a paper in the flourishing village of Oswego. Not satisfied, however, with the pecuniary results, he, at the solicitation of his brother, John Burdell, at that time in the city of New York, joined him in the study and practice of Dentistry.

His ambition was not yet satisfied. He studied Medicine under Dr. D. L. Rodgers, went to Philadelphia, and in due time graduated in the University of Pennsylvania.

At this time John Burdell stood in the front ranks of his profession, then very remunerative. Harvey, not wishing to be left in the background, left his brother John, and established himself at the corner

of Broadway and Duane streets, where he remained several years, practising dentistry and medicine. He then removed to the corner of Broadway and Franklin streets, where he remained ten or twelve years, in the enjoyment of a successful practice of Dentistry. In 1838, he wrote a treatise on the teeth, and translated a similar work from the French, both of which met with a ready sale. He also contributed to several Dental publications in this and other cities, and continued his contributions up to the time of his death.

Dr. Burdell was elected an honorary member of the Philadelphia Medical Society, also a member of the Historical and Statistical Society. In 1839, he was appointed Hospital Surgeon in the 64th Brigade, with the rank of Major. He was a large stockholder in the Agricultural Bank of Herkimer, the presidency of which he was offered, but declined. He was one of the principal movers in getting up the Artizans' Bank, of New York, of which he was chosen a director.

In the Spring of 1853, he removed to 31 Bond street, where he continued the practice of his profession up to the time of his death. In 1854, Dr. Burdell was elected President of the Society of Dental Surgeons of the State of New York, to the members of which, on that occasion, he gave a sumptuous dinner.

By industry, economy and perseverance he succeeded in accumulating an ample fortune, the distribution of which among his less successful relatives, when he should have no further need of it, he contemplated with pleasure.

Of Dr. Burdell's faults, the daily journals, during the time of morbid and public excitement, have contained gross and incredible exaggerations. Faults he had, and who has not? but he never concealed them, and with him the worst was always known.

There are, doubtless, many among us clothed in the garb of virtue and piety, who, were they to pass the terrible ordeal through which his character, with none to defend it, has passed, would not come off unscathed.

The peculiar circumstances attending his tragical end have brought out in bold relief his shortcomings, while his redeeming and better qualities remain unwritten. Dr. Burdell was a very temperate man all through life, cautious, economical, prompt and industrious; in a word, a man of decided talent. The principal error of his life was in not marrying when young, and thereby surrounding himself with those that would have contributed to develop his better traits of character, and to smother those that his associates in after life took advantage of.

Those that knew Dr. Burdell best, admit that he had naturally a kind and generous heart, and during his life contributed much to the happiness and enjoyment of his relatives and friends.

B. F. M.

For the Dental News Letter.

PLUGGERS FOR "ANNEALED GOLD."

BY LOUIS JACK, D. D. S.

In the use of "annealed gold," nothing is of more importance, probably, than the possession of suitable plugging instruments. There is need of some attention being paid to this subject, as it has seldom been treated of publicly with the fulness which its importance requires.

At this time I propose to explain, in minute detail, a method which will enable any one of common ingenuity to secure for himself, points possessing the necessary qualities, without calling in the aid of the instrument maker.

I have no doubt many have been attracted by the descriptions given of the manner of using "annealed gold foil;" have attempted to follow them, and have failed to secure satisfactory results. This may be attributable, in the main, to the application of improper instruments. Those who have practised in this way, know, that without points of the best character and of appropriate forms, but poor results can be obtained. Now, in order to secure the perfect adhesion of each successive layer of gold with the least difficulty, a surface should be produced and kept up that is covered with pits and points, both of which should be acute. To secure this, it is necessary that the points on the end of the pluggers, whether they have a single one or are composed of a dozen, should be absolutely sharp, and the depressions between the points likewise have the same acuteness. If either point or pit, or both, are blunt, a corresponding surface will be given to the gold, which will not favor near so well the adhesion of the pieces as when sharper points are used. A pellet of annealed gold may, indeed, be easily made to adhere inseparably to a clean, smooth, unpolished surface of the same material; but it requires to be held in place at one point while another part is being condensed. In a tooth this would be a troublesome matter. The serration of the points is intended to overcome this difficulty.

It is found very convenient in practice to slightly attach a pellet in the middle of the filling, and then to drag pieces from it to fill up along the edges of the cavity. This is attended with much advantage. Anything that will increase the facility of performing this part of the operation of plugging teeth is certainly important, and the intelligent dentist will avail himself of anything, however slight it may be, that will aid him in the least. To those who have attempted to use gold in this manner, the tendency of the part of a pellet, first attached, to

draw loose, while the remainder is being condensed, is well understood. To obviate this, it is necessary to increase the resistance by increasing the number and acuteness of the points.

I will now enter into a description of a method to completely secure the surface required, which occurred to me, and which has given me and others so much satisfaction as to constrain me to make a more public notice of the matter. Trifling as it is, to those who will fairly try it, it will be found very useful, and will save much time. This improvement consists simply in drawing the point backwards and forwards upon the heavy cuts of a Stubs file; thus giving to the instrument teeth as sharp as those of the file. The number of points in each plugger may vary from two up to twenty or thirty, all of which, in different classes of cavities, and under certain circumstances, will be required.

To make two, three, or more points in a line, the end of the instrument should first be hammered flat,—and this should never be neglected in the manufacture of any instrument, as it adds greatly to the strength and hardness of the steel,—then filed nearly to an edge, and, while straight, made smooth upon the Arkansas stone. The next step is to make the points. The instrument is held firmly by the fingers in the same position as the pen in writing, and rubbed lightly forwards and backwards upon the file, as before mentioned, commencing on one side somewhat, and turning the file or raising the handle of the instrument, until the teeth are marked upon the end, so that in turning it over to cut the other side, it can readily be adapted to the teeth of the file, in order to secure exact opposition of the cuts; a failure to effect this would render the points defective. The instrument should now be struck into the end of a block of hard wood, to rub off the ragged corners, termed “wiring;” then, by very light rubbing upon the file and cleaning on the wood, the point will be ready for bending and finishing. It is quite important that this process should be neatly done, and the wiring well removed, else the gold may be dragged.

To make a square-ended plugger, having four points, which, by the way will be found to be one of the most useful forms, it is necessary, after reducing the steel small and square, to make two shallow cuts, intersecting each other at right angles, with a small knife-edge file; then dressing the steel quite close to the cuts. It can now be transferred to the flat surface of a file, and by the means of these lines, be readily adapted to one of the teeth, and the points completed much in the same way as described above. The cuts between the points will then be found quite sharp at the bottoms, which the best knife-edge files will not accomplish.

Another very useful form is composed of six and eight points, in two parallel rows. The steel is hammered flat, filed to twice the thickness of a wedge-shaped or line point, a longitudinal groove is made on the end, then dressed down on each side until two sharp wedge points are formed. It is then made smooth on the side, transferred to the file, and completed as directed for the single wedge shape. In this way, points can be made of such sharpness and fineness as cannot be formed in any other manner.

This will be found an excellent process to follow in making condensers. The objections to long, sharp points in this class of instrument, every one is aware of who uses them; the labor of removing their marks often requiring considerable time. In this way, by a little care, two sets of lines may be made at right angles to each other; the points so formed having the utmost sharpness, and yet they will be so short as not to impair the surface of the filling. In cutting the cross lines the instrument must be pressed lightly with a steady hand, else the first set will be injured or obliterated. This may be performed, however, sufficiently well with an ordinary thin-edged file. As many as sixty well-defined points may be given to a surface one-sixteenth of an inch square.

It may not be out of the way, now that we have directed the formation of the points, to mention something concerning the tempering of them. It is surprising that this simple process, as simple, almost, as the heating of water, should be so imperfectly understood by so many dentists, and so badly performed by the majority of instrument makers. The easiest method to temper a piece of steel or an instrument is, to make it smooth, or to finish it with the exception of tempering; cover the surface with an alkali, which may be done by dipping it into soft soap, or while hot, into any of the common kinds, then heating to the cherry red, and plunging immediately into moderately cool water. The water may, however, be varied in temperature according to the hardness required. The instrument will then be found clean, of a grayish color, and ready for drawing down the temper to the required tint. The soap prevents the oxidation of the surface; many other substances will answer the same purpose equally well.

It is necessary that points used for packing annealed gold should be quite hard, else in use they will soon lose their sharpness, and at the same time they must be so soft a short distance from the end as not to snap off under pressure. This is effected by holding the point upon a piece of cold steel while the heat is being applied to draw down the temper. It is well to have upon the steel a drop or so of

water, so that the end can be suddenly chilled, if the color seems to be running too close. If, after hardening, the steel is polished with lime, or rouge, the slightest changes of color can be observed. Some emery paper or emery cloth may now be used to clean the blackness from the steel above the point, and polished with a common burnisher, when the instrument will be fully ready for use.

These remarks are intended for those of little experience, in forming the points of their instruments. My effort is to present a useful little hint, in a plain manner, to all who may want it.

ORGANIZATION OF THE SAINT LOUIS DENTAL SOCIETY.

After preliminary meetings of the members of the Dental Profession of the city, it was resolved to organize a society under the name of the Saint Louis Dental Society. A Constitution and By-Laws having been adopted, an adjourned meeting was held Dec. 16th, 1856, at the office of Drs. Dunham and Hale, for the enrollment of members and election of officers.

The following gentlemen signed the Constitution:—

Isaiah Forbes, C. W. Spaulding, Henry Barron, Aaron Blake, S. Dunham, Jas. Wise, David L. Levett, G. H. Perrine, Geo. H. Silvers, C. M. Forbes, J. G. Nichols, S. Hinson, H. J. B. McKellops, A. M. Leslie.

After balloting, the following gentlemen were elected to fill the various offices:—

President, Dr. S. Dunham; Vice President, Dr. A. Blake; Secretary, A. M. Leslie; Treasurer, Dr. G. H. Perrine; Executive Committee, Drs. H. Barron, Isaiah Forbes and G. H. Perrine.

This Society will hold its regular meetings the first Tuesday in each month, when the time will be spent in discussing such points of practice as the members shall present, when it shall be the duty of each member to give his views on any subject brought forward. This is according to By-Law, and is an excellent feature, well calculated to work out a good result. The Executive Committee, in accordance with instructions, have before them the propriety of renting and furnishing a room for the Society's use. In every way, this association has made an excellent beginning.

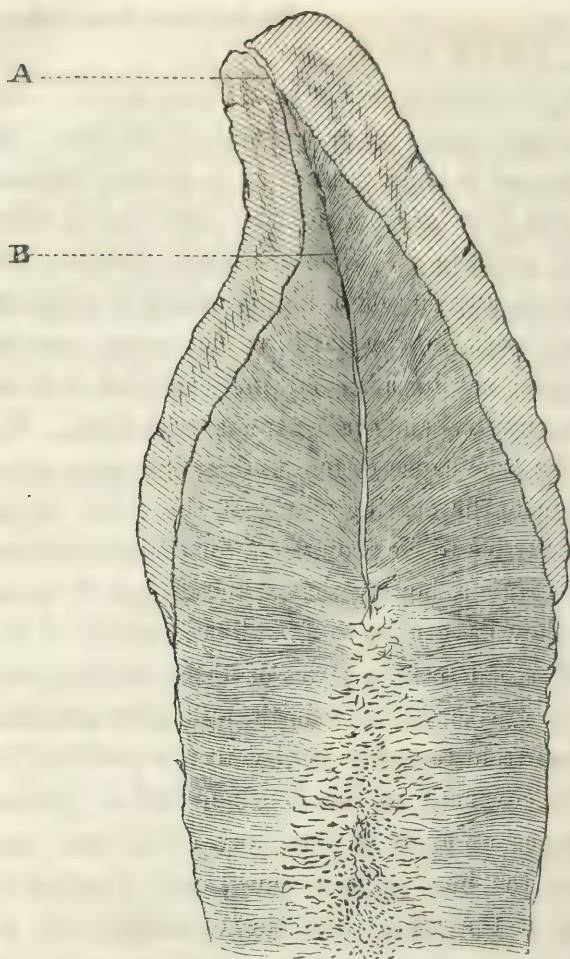
The Society, after adjourning, met, at the invitation of the President, around a social board, and discussed "bivalves;" a question on which all could say something, and, although differing, all enjoyed in their own way.

A. M. L.

For the Dental News Letter.

TOOTH EDGE.

This peculiar affection of the teeth does not as yet seem to have been properly understood, and simply, perhaps, on account of the fact that it is experienced at all ages and in teeth presenting a healthy appearance. It has been believed that grating sounds, scraping of slate pencils, filing, &c., would produce it. These sounds produce unpleasant, nervous sensations on any one of a highly sensitive temperament. Whether they have teeth in the head or not, some persons cannot bear to hear their own set of artificial teeth ground or filed. These things only explain a sensitive temperament, not tooth edge. We think we have discovered the true cause of tooth edge, and some other important matters in relation to the cutting edges of the front teeth, and which we will endeavor to give to the profession, for their consideration, in a plain and simple manner, hoping that a knowledge of them may be as useful to all as they have been to us. The enamel of the tooth has always been understood to be a series of fibres running from the dentine outwards, and of greater or less length, and their direction radiating as it were on a line from the pulp cavity to the periphery of the tooth, forming a solid covering to the dentine, and of greater thickness on the cutting edges of a tooth than any other part, and diminishing as it approaches the neck of the tooth, until it ceases to exist under the free margin of the gum. All the drawings that we have examined also show that the dentine forms a solid protection to the pulp toward the cutting edge of a front tooth. Although cementum is described as intervening between the pulp and the dentine, of greater or less amount; when a tooth is worn down, this cementum can be distinguished from the dentine with the naked eye. We have called it *pith*, to prevent the necessity of defending a more scientific term, and it extends from the pulp entirely through the body of the tooth to the outer surface of the enamel, and in young teeth is of very loose texture, but becomes more hard as age advances and the pulp recedes. Indeed we know that a tooth may wear to the gum and not expose the pulp, by an increased deposition and density of this substance. This causes a front tooth to present the appearance of being composed of an anterior and posterior plate, or of two halves, like an oyster shell, and is more or less open, according to the character of the tooth. Hence, in looking at the cutting edge of a tooth, a faint line can be seen as soon as it erupts from the gum, as though it were a crack running from one side of the tooth to the other, and becomes more distinct as the tooth is exposed to friction.



The accompanying drawing will show the seam through the enamel (A), and also the seam (B), continuing through the body of the tooth as far down as opposite to the neck. This section has been made longitudinally through a front tooth in an antero-posterior direction, and outside of the pulp cavity, to show that it is through the whole body of the tooth, as far down as the neck or gum, and not merely in front of the pulp cavity; but it is much more open opposite the cavity. We made a number of drawings and preparations to exhibit this new feature

of the tooth, as microscopist for the American Society of Dentists, but it never had time to examine them. This opening or seam is lined by a sensitive membrane, similar to, or identical with, the enamel membrane, and is the medium of sensation to the edge and body of the tooth, and explains the affection called *tooth-edge*.

A young Miss called to consult us a short time since, suffering with dull pain and extreme sensibility to the touch of the inferior front incisors. The first permanent molars had been extracted, and the deciduous molars were too much decayed for use, and the front incisors had been exposed to undue friction in mastication, and rapid wear, exposing the uniting membrane, as we term it, of the enamel plates, so fast as to cause suffering. The line of division of the enamel plates was very distinct, and upon touching with a fine probe, presented the same acuteness of sensibility as is experienced when touching exposed enamel membrane elsewhere in the tooth when exposed by decay. We have seen many cases of this kind of suffering from using acid fruit. This kind of suffering is not only confined to young persons, but also to those of advanced age. A lady of sixty years of age consulted us

a few days ago, affected with pain and sensibility to the touch of all the front teeth, and especially to the touch on the cutting edges. She had been using acid as a medicine.

On account of the fact that there is no solid dentine between the pulp cavity of a front tooth and the cutting edge, it is very seldom that a good operation of plugging is made when the pulp is destroyed, because the operator only takes out the dead pulp and plugs the cavity. When the pulp is removed, it is necessary to cut towards the edge of the tooth to remove the pith that fills the space between the anterior and posterior plates, or what is usually called cementum. Every one knows that it is not uncommon to see considerable discoloration between the plug and the edge of a tooth after it is plugged. We are almost daily removing front plugs from nerveless teeth for this reason. We had intended to add considerable on this subject in relation to practice, but it would make the paper too long. J. D. W.

For the Dental News Letter.

ADHESIVE GOLD FOIL.

BY J. H. M'QUILLEN.

At the last meeting of the American Dental Convention, when "*The best preparation of Gold for filling Teeth*" was under consideration, the writer stated that "he had tried the plan of annealing foil as proposed by Dr. Arthur, and found that he could not introduce as much gold, when so prepared, into a given cavity as with the ordinary foil received from Abby. He believed the annealed gold hardened under the instrument so rapidly as to choke up the cavity and prevent the perfect consolidation of the filling; and had reason to infer, from his experience, that the specific gravity of a filling of annealed gold is not equal to one made of ordinary foil;" of course the same care and force being exercised in the introduction of each.

These remarks were made as the result of casual observations at the time of using the foil, and advanced as impressions rather than asserted as irrefutable facts.

Being desirous of demonstrating to his own satisfaction whether these views were correct, the writer has, within the last few months, instituted a series of experiments bearing directly upon this point. In pursuing his investigations, he feels indebted to Dr. Buckingham for the use of an ingenious contrivance, made by him some time back, for the purpose of ascertaining the relative amount of crystalline gold and foil that could be introduced into a given cavity. It consists of a

steel plate, constructed so as to slide dovetailed into one of brass. The former is perforated with a number of holes, varying in size; the latter serves as a bottom to these.

Having made choice of the cavity to be filled, some No. 5 gold foil of Abby's (as it came from the hands of the manufacturers, with their assurance that it was prepared in the *old-fashioned way*) was torn into half sheets, rolled loosely into ropes, and then each divided into eight or ten pieces by the scissors. The cavity was then filled with the same instruments used in the mouth. After the operation was completed, the plug was forced out of the hole, marked No. 1, and laid aside. A portion of the foil was then prepared according to the directions of Dr. Arthur, and introduced into the *same cavity*, with even greater care and labor than had been bestowed upon the former operation; when finished, it was removed from the plate and marked No. 2. Placing the fillings on the opposite sides of a pair of fine scales, the *ordinary foil*, plug No. 1, was found to be much heavier than the *adhesive foil*, plug No. 2. The smaller weights belonging to the scales had been lost, and it was therefore impossible for the writer to determine the exact difference between them.

Supposing that the disparity of weight in the two fillings might be attributed to his limited experience in the use of gold so prepared; as his only aim and wish was to ascertain the *truth*, and desiring to give the suggestion the most generous margin, the writer called on one of the best operators in the profession, who has been accustomed to use, for the last two years, almost exclusively gold in this form. Having stated the object of his visit, this gentleman very politely consented to fill the same cavity with adhesive gold. After performing the operation with a great deal of care and judgment, (employing at the same time the most delicate instruments in use,) he marked the filling No. 3, when perfected, and placed it with the other two. The three plugs were then weighed carefully in a delicate pair of scales, when the ordinary foil plug, No. 1, was found to weigh ten and three-quarter grains, and Nos. 2 and 3, of the adhesive foil, not over nine and three-quarter grains each.

If the relative difference, demonstrated by these experiments, should hold good in the operations upon the mouth, when conducted with the care that Dr. Arthur *practices* and *enjoins* on others to observe, it will be found that a cavity which requires ten leaves of No. 5 ordinary foil, or fifty grains, would be filled by nine leaves of No. 5, adhesive foil, or forty-five grains; thus leaving out an entire sheet. Until he

obtains more light on this subject, the writer is forced to believe that this ratio of variation would be preserved.

But the difference would be still greater in cases where the operator uses the adhesive gold in large masses; for here the hardening and choking of the gold would prevent, to a more marked degree, the perfect consolidation of the filling. It is asserted by some who use it, that under such circumstances it will not adhere. The writer remembers, however, to have seen an eminent practitioner use it in that way, some months back, without any apparent difficulty in effecting a union between the various particles.

Refraining from further comment, and trusting that others will make this a subject of investigation, the writer would say, in conclusion, that if more carefully conducted experiments should demonstrate the incorrectness of the views he has advanced, no one will rejoice more over such a fact, or more readily acknowledge it, than he will.

For the Dental News Letter.

PROF. ARTHUR'S IMPROVED METHOD OF USING GOLD FOIL.

As a general rule, dental practitioners are disposed to conceal and use for their exclusive benefit, any new discovery or invention they may be so fortunate as to make. But, whilst we have to lament that this is the general rule, we have abundant reason to feel thankful that there are so many honorable exceptions; and among these, in my humble opinion, Professor Arthur is pre-eminent.

In the operation of filling teeth, which, to be well done, is the most difficult as well as the most valuable pertaining to the profession, he has won for himself laurels. No doubt, many who have tried Dr. Arthur's plan, will think that I am saying too much for it; but if they do, it will be owing to the fact that they have not tried it right. I had the pleasure of an introduction to the Dr., in the spring of fifty-five, and saw him fill a tooth in presence of the students of the Pennsylvania College. I returned home, and tried a few fillings on his plan, (as I then supposed,) and gave it up, considering it not of much importance. Recently, I have tried it again, and found it to be all, and I think I might say, even more than it professes to be. And as others may fail upon first trial, as I did, I will simply state the cause of my failure:—It was the want of suitable instruments, and let me remark just here, that I consider that the Dr. deserves more credit for the invention of his instruments and manner of using them, than the preparation of the gold. Some have said his manner of annealing

gold is not new ; who can say his form of instruments and manner of using them is not new ?

By this manner of using gold, we are not only able to fill teeth with only one or two remaining walls, but may, with impunity, build an entire gold crown on a root and render it so hard, that it will answer for masticating purposes for many years.

In conclusion, I hope Dr. Arthur will accept my sincere thanks for my share of his liberal donation to the profession. And I think the hundreds who are enjoying the benefits of his invention and discovery should return and do the same. I see no inducement for liberality in a profession that is void of gratitude.

T. D. THURMAN.

Atlanta, Georgia.

For the Dental News Letter.

PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

The proceedings of this association have, of late, been marked by an interest which gives to them a character they have seldom before possessed, and is a source of congratulation to the leading members, who derive from it the hope of the approach of that state after which they have so long, untiringly and unremittingly labored.

The advantages derivable from professional association are (as must be evident to every one) of the most extended nature. It is in such associations that the eminent and experienced of a profession are brought together. Here, notes of practice are compared, deductions are arrived at, facts elicited. Here, the young man,—the ink on whose diploma is scarcely dry,—marking well the pathway of practice given by those who have preceded him, takes new energy and a greater share of confidence. Here he learns in detail that which his theoretical knowledge enables him readily to appropriate and digest. Here is engendered that sense of professional propriety for which he shall ever have cause to be thankful.

These advantages may readily be conceded to the Pennsylvania Association. Its members' roll comprises many practitioners of the city who have reputation in the different departments of the profession. Monthly, in meetings of experience, do these gentlemen assemble themselves together, and, in comparison of notes, justify or alter practice. Here, then, if anywhere, is the young practitioner to seek for light ; is the old man to renew his perception of life duties.

We have often been questioned as to the requirements for admission into this society. The article, from the Constitution of the Society, on the subject, reads as follows :—

ARTICLE VI.—Of Membership and Examining Committee.—Any person applying for active membership, shall be twenty-one years of age, of good moral character, and have received a liberal education. Such candidate shall apply, in writing, to the chairman of the Examining Committee, who shall have power to call the Committee together, at such time and place as may suit the convenience of the parties, when the candidate shall submit to an examination by said Committee, on the following branches of science, viz:—

Surgical and Mechanical Dentistry, General Anatomy and Special Dental Anatomy, Physiology and Dental Pathology, Dental Therapeutics and Materia Medica, Theoretical Chemistry and Dental Hygiene. And if his qualifications, upon such examination, be satisfactory to a majority of said committee, they shall propose him to the Society as worthy of membership, which proposition shall lie over till the next stated meeting, at which he shall be balloted for; two-thirds of all the votes given shall be necessary for his election. Those who have received diplomas, or certificates, from a respectable Dental College or Association, (recognized as such by this Society,) may be admitted to membership without an examination.

This Examining Committee, at present, consists of Dr. C. C. Williams, 252 Walnut street, Prof. Buckingham, 165 North Ninth street, and Dr. W. W. Fouche, Sixth above Race street.

By a certain late resolution, however, these gentlemen, if satisfied of the skill and acquirements of the applicant, have the privilege of recommending without subjecting him to the examination.

A prominent feature of late meetings has been the reading of essays on subjects connected with professional duties, many of which have given evidence of deep research and substantial investigation. Much profit has resulted therefrom, and must continue to result, as in these papers we have worked out facts from, in some cases, the investigations of months.

It is with satisfaction we are permitted to notice the harmony at present existing in the Association. Each member seems to have in view the single object of "professional progress." On such a state of feeling, "advancement" must attend; with such determination of purpose, the object sought must be secured.

En passant, we might remark, that the third Tuesday of each and every month is that set apart for discussional meetings, to which all professional brethren, either of the city or country, are, by a standing invitation, cordially invited.

The offices of the Association are at present filled by the following named gentlemen:—President, J. D. White; Vice President, Daniel Neal; Secretary, Jas. E. Garretson; Librarian, S. Dillingham; Treasurer, David Roberts; Examining Committee, as given.

One other feature of the Pennsylvania Association is the reception of communications from dentists having no membership, which communications, from those having anything of interest to which they would direct attention, are invited. We are reminded to mention this, knowing as we do, that in the private cabinets of many gentlemen are to be found specimens of abnormal growths, &c., which, exposed to more general observation, might be productive of great benefit.

Again, are to be found in the note books of the profession, case after case, which are as absolutely general property, or should be, as the great pharmacopœia of mother earth. Send all these to the association, mark your name on your presents, and fill up her cabinets; write out your notes and give them to the general fund; thus may you become as well givers as receivers; thus may you feel that to the accumulated mass you have added your quota. All such communications will be received by Dr. J. H. McQuillen, Arch street, or the Secretary, Dr. James E. Garretson, No. 42 North Sixteenth street, and by whom, through the "News Letter," they will be acknowledged.

Considerable addition has of late been made to the library of the society, through the kindness and interest, personally, of the members. The last purchase made by the Association is, we believe, of Owens' Odontography, two volumes, forty dollars, a work abounding in engravings, and matter of much interest to the naturalist.

The long expected report of the Microscopic Committee of the Association, was presented at the stated meeting for January. The report embodied much matter, and presents considerable interest to the dental practitioner. It was accepted and laid on the table, to be taken up in sections for discussion. Prof. Flagg was the chairman of this committee.

J. E. G.

DENTISTRY IN CALIFORNIA.

[In a letter from a professional friend, now in California, we find the following, which may interest those especially, whose thoughts often turn that way.—Ed.]

GENTLEMEN :—Since I had the pleasure of seeing you last, I have done little for my own or my country's good, but to travel. I arrived in this (wonder of the world) city, after a short and pleasant passage, on the 14th of August. I remained here one week, to rest myself and see the fashions; among other things, I got a look at the memorable Vigilance Committee Rooms, before they closed them, and also the sand-bag fortifications. I never was in favor of folks taking the law

in their own hands, but I am of the impression that something was requisite to correct the corrupt government then in existence. After taking a glance at the city, I started for the mountains, going first to the Northern, then to the Southern. After booking myself up in all matters, I came to the conclusion that to get the pile of gold I wanted, though moderate in my calculations, would require an iron constitution, one that would stand as much labor and exposure as mortal could possibly endure, besides occasionally coming in contact with some of the worst kinds of society: admitting, at the same time, that there is as good society here as elsewhere; but you have to speak to and associate with Tom before you get acquainted with Harry. I found California well represented by lawyers, doctors, and dentists; more especially the latter. Every one-horse town has its one, two, or three dentists,—many of them good operators. Having satisfied myself that I could not make my pile in the mountains, and learning more of frail Human Nature than I should ever have learned had I not visited them, I concluded to return to this city, to await the arrival of my furniture to come around the Horn; in the meantime to look for suitable rooms. In due time my things arrived in good condition. I was compelled to store them, and continue my search for rooms. After looking until I was tired, and having spent thirteen hundred dollars since leaving home, I, in despair, concluded to go to South America. Having got all my business arranged, and was speaking to the last of my friends relative to my departure, when he remarked there were rooms vacated recently, and asked me to go see them. I did so; finding they would suit, I rented them, at forty-five dollars per month,—rents ranging from this amount to one hundred dollars per month for three small rooms. From the latter operation, you will perceive I am about to become a fixture in this city. I must now turn back in my history and inform you that in my despair to get rooms, I sold all my furniture. My splendid chair was the first thing sold, which almost cost me a tear to part with, you having done your duty to my full satisfaction in that article. Now, to cut a long story short, I want another of the same kind, in the shortest space of time. * * * * *

The weather in this city, to a man with sensitive nerves, is only tolerable in the winter, but in the summer intolerable; blankets and overcoats being in greater demand in the latter season.

* * * * * Tell your dental friends not to come to California if they are doing well at home, and positively not unless they have plenty of spare funds, as expenses of every kind are very great.

B. A. K.

FILLING TEETH.

There is no subject connected with dentistry about which so much has been said and written as about the operation of "filling" or "plugging" the teeth. In all conversations between dentists, this is a topic which never fails to furnish points of interest. There is scarcely a number of a professional periodical issued which does not contain some article or part of an article devoted to it. It has not, however, received an undue amount of attention. We all recognize the fact that, in the thorough performance of this operation, lies the greatest benefit the dentist is able to render to those who, unfortunately, find it necessary to place themselves in his hands. As its object is to arrest the progress of that disease which leads to nearly all the trouble he is called upon to remove, it may well be regarded as the great remedial measure of his art. Although, as I have said, this subject has been discussed in a great variety of bearings, it is far from being exhausted.

There is one feature of this operation which has been regarded by many writers and by many operators as a cardinal point; it is this: that the filling is most nearly perfect when it is made up of gold (as this is generally conceded to be the best substance known for the purpose) in its most compact state. The more nearly it is brought into the condition of gold that has been fused, the more perfect the filling is regarded.

It is conceded that the object of filling teeth is to place in the cavity formed—as a consequence of the decomposition and removal of a portion of the dentine, occasioned by the chemically solvent properties of the fluids of the mouth, or some agent contained or generated therein—a substance capable of resisting this solvent action. The material used must not only be possessed of the property referred to, but it must be so placed in the cavity as to be absolutely impermeable to the fluids of the mouth; must be brought into such perfect contact with the walls and orifice of the cavity as to prevent the passage of any fluid alongside of it. Where the cavity is situated upon a grinding surface, the filling must also be capable of resisting the pressure and friction of mastication.

Though far from advocating hasty and slovenly operations, of which, I think, I shall not be accused by those familiar with what I have done in this way, I have little hesitation in asserting that a great deal more stress has been laid upon this feature of filling the teeth than it deserves.

A certain degree of density is essential, but this, I am well convinced, is far short of the degree of density which may be obtained. I have very little question that gold foil may be made quite as compact as gold melted and poured into a cavity of exactly the same dimensions as the one filled, but this I regard as, in any case, useless.

I will state explicitly what I mean. If I have, for example, a large cavity situated so as to be accessible, in filling which I can use direct force to advantage, I am well satisfied that, after getting a sufficient quantity of annealed gold condensed so as to retain its place, I can take pellets, made up of a quarter of a sheet of No. 6 gold each, and condense with an instrument, the point of which shall not be less than one line in diameter, using as much force as I can bring to bear upon it, and when I have completed the operation it will be dense enough to answer all the purposes of a filling. If it is brought into good contact with all the sides of the orifice of the cavity, and this last has been well prepared, and afterward the whole surface of the filling is well polished, I should expect such a filling to preserve the tooth in which it was put as well as any other filling; and yet I could put in the same cavity at least one-eighth more gold.*

This, indeed, is not a matter that need rest upon my own statement. Every operator must acknowledge that there is necessarily considerable variation in the density of different fillings in the same mouth. In some cases it is an absolute impossibility to bring the same amount of

*In using "annealed gold," as I have been doing almost exclusively since my first communication to the "News Letter" on this subject, a number of improvements in the methods of manipulating with it have suggested themselves. A pellet of a quarter of a sheet of No. 6 foil, if made in the ordinary way, that is, by rolling a sheet into a rope, annealing it, and cutting it into four pellets, would be nearly unmanageable; it could not be well condensed with instruments of any size or form. A better method of making the pellets is the following: The sheet, without being folded or rolled up, is annealed; it is then cut or torn into pieces of the size desired, and drawn together with the instruments used for plugging. In this way, large pellets can be made as loose as small ones; any degree of density, indeed, may be given to them. When the gold is prepared in this way, instruments with a larger condensing surface may be employed; it may be worked more rapidly and made denser than where a closer pellet is used.

With regard to the use of "annealed gold," I cannot avoid taking occasion here to say, that I am more than ever satisfied that it is by far the best method of using gold for this purpose, of which I have any knowledge. I feel confident, that in time it will become the nearly universal method of using foil for filling teeth, unless some better method, of which nothing is now known, is devised. I find its advantages so great, and the same advantages have become apparent to a number of good operators with whom I am acquainted, that I am well convinced that its use is not fully understood by those who reject it; or at least that they have not learned to overcome the slight difficulties sometimes attending its use in the beginning.

pressure to bear upon the gold as in some others. And there are cases, I mean those of frail teeth, in which it is quite impossible, particularly under the old system of using gold, to make a filling anything like so dense as it can be made where the walls of the cavity are strong. And yet, if all the other conditions of a good filling are observed: if the orifice of the cavity has been well prepared; if the gold has been brought into intimate contact with all parts of the walls and orifice, and if the surface has been well finished, we do not look for failure merely because the gold is not so dense as it might have been made.

It is my decided impression, that gold cannot be made so dense, by a great deal, when it is used in the form of cylinders, as it can be by other methods, even in the hands of those most successful in its use. And yet I cannot but look upon this method of filling teeth as excellent, and its excellency, in my estimation, consists in the very perfect contact which can be obtained between the gold and the walls of the cavity filled in this way.

There is no dentist, I presume, of a few years' practice, who has not met with fillings which have completely arrested decay, so soft that, with a very slight effort, an instrument could be thrust through them; so soft as to make it impossible to remove them without tearing them to pieces. And yet such fillings, as I have said, have preserved the teeth for years.

I presume I can scarcely be misunderstood. It is scarcely necessary to say that a good filling should be a dense one. No operator who fills teeth, in the manner just indicated, although he may be successful in some cases, can ever become a good operator. Nothing will justify a dentist in operating carelessly. But in order to fill teeth well, a great deal of labor and time and care are necessary. It is well, therefore, to consider how much time and labor are absolutely required, so that neither may be wasted.

These are, of course, mere hints in this direction. It is a subject, however, I am satisfied, of importance, and well worthy the careful attention of every practicing dentist.*

R. ARTHUR.

* As I have adopted exclusively the use of "annealed gold" in my practice, and have strongly urged its advantages, it may, possibly, be inferred from the above article, that I admit the truth of the assertion, that it is impossible to force as much gold into a given cavity, if it possessed the adhesive qualities necessary to its use, as I have proposed, as if it has the ordinary character of gold foil. I have no hesitation in saying, and my confidence is based not only upon the plain reason of the thing, but upon some recent experiments in this direction, that I can put as much "annealed gold" into a given cavity, in the same time, and with the use of the same amount of force, as can be done by any other method at present known.

For the Dental News Letter.

ARTIFICIAL DENTURES.

GENTLEMEN OF THE ALUMNI:—Feeling, as I do, that the position which is occupied by me at this moment might be filled much more advantageously to yourselves, still I cannot but assure you that it is with *pleasure*, as well as with diffidence, that I respond to the request made by you upon the occasion of our last meeting.

It is a pleasure to look upon the faces of those with whom agreeable reminiscences are associated; pleasant to meet upon the spot where many of us for the first time met each other; pleasant to see the increasing desire for liberal communication among members of our profession; pleasant to be one among you.

At the same time, the belief that a short, practical paper, upon some subject of daily utility, would be more acceptable than any attempt on my part to find some new path in which to speculate, has given me more confidence, and has taken from my task that which, to me, would have rendered it irksome. Permit me, therefore, to offer, for your acceptance, a few remarks upon Artificial Dentures, Anatomically and Physiognomically considered.

There are few dentists who do not find, ere they have been long engaged in actual practice, a partiality for some particular branch among the many, that become to them duties. Some watch, with peculiar interest, cases of disease which come within their province, and experience real delight when favorable symptoms announce a yielding to their skill. Another derives enjoyment from a difficult case of plugging; he prepares his cavity in defiance of all obstacles; he places carefully and compacts thoroughly his “cylinders,” or revels exultingly among the apparent impossibilities of “annealed gold,” and having, at last, given the final touch, unmindful of the want of appreciation, which even yet, is so apparent in our midst, he slowly straightens his bent and almost broken back, and with a smile of satisfaction, regards the result of his labor. A third finds pleasure in extracting; delights to put an aching tooth where it will ache no more, and with an indomitable determination, to overcome all difficulties, he, like the hardy frontiersman, takes his stand amid the roots and stumps.

To many, that branch which is known as “artificial work,” affords a source of much satisfaction as well as profit, and I must say, that I, myself, hold to the opinion, that a pretty set of teeth is a very pretty thing, and it most certainly affords me gratification, as I see the unsightly mass of wax, gold, plaster, sand and teeth, gradually assuming

a proper form and finally presenting itself in all its polished brilliancy. No backs at this are broken, no dreadful screams or writhes of anguish shock the sensibility, and hemorrhage and gangrene are unknown.

I have not intended, by any means, to give you the idea that inducements are offered by this branch, which should be allowed in the slightest degree, to interfere with the proper prosecution of what I think I may be allowed to style, the more professional departments of our art, but simply, that in the routine of my duties, I consider mechanical dentistry as my *pastime*.

It is not purposed by me, at this time, to enter into the consideration, either concisely or otherwise, of *any* of the difficulties that are occasionally encountered in even this path, but it is my desire to lay aside all minor considerations, and to call your attention at once, to that portion of artificial work which alone gives it any claim upon us as dentists, viz: the complexion, style and arrangement of the teeth.

Among the various features for which has been argued a predominance in giving expression to the face, none presents stronger or more numerous claims, than the mouth, but while it expands in the broad laugh of mirthfulness, or slightly parts in anxious expectation, firmly compresses in anger and determination, or bestows gently, the sweet smile of affection, who can deny, that to the *fitness*, as well as the beauty of the *teeth*, is due in a great measure the harmony of the whole.

Who among us, has not been repeatedly shocked at the ghastly effect produced by the adaptation of a set of teeth to the mouth of the patient whose complexion announced a temperament decidedly bilious, which might have even added beauty to one of a lymphatic tendency?

A proper choice of complexion is, unquestionably, one of the most important requisites, in order to ensure a pleasing result as the reward of our labors for supplying the loss of teeth, and in partial sets, one cannot be too particular in this respect; but, while in these cases the remaining organs are necessarily the guide, it is not so when full operations are required. Here the skillful dentist may often improve, even upon dame nature, if she has been unkind, or if in youth, the complexion of the teeth and person have harmonized, and time, from the mutability of the one and stability of the other, has wrought its changes, that harmony may be again restored.

In regard to the complexion of the teeth, nature makes three grand divisions: the white, the blue, and the cream color, while in selecting from mineral teeth, we have, in fact, but two colors, the blue and the yellow, though from the great number of shades which we possess of each, it is easy to arrive at nearly what is desired.

In choosing a complexion, we are of course governed by the existing state of things, unmindful of what the patient has been: we have to deal with what now presents itself, and must act accordingly. Physiologists have observed that certain peculiarities of organization, as exemplified by individuals among mankind, has rendered it necessary to make a classification which has been denominated "Temperament." Of these temperaments, three are always considered, viz:—the nervous, the sanguine, and the lymphatic, though some have mentioned the bilious as a fourth.

Among the characteristics which have been recognized as determining a temperament, the complexion of the teeth has always had its assigned position, so that we have but to decide upon the temperament, and a guide is furnished us which is unerring.

It would be needless for me to occupy your time with an enumeration of the various other characteristics, as you have found the subject fully treated in Physiological works; but for our present purpose, it is sufficient that your attention is called to the fact that, to the nervous and lymphatic appertain teeth of all the various shades, from chalk to indigo—to the bilious, those which may be comprised between light yellow and dark brown—while the sanguine has its range from the "pearls" of romance, to the rich, solid, cream-color of healthy reality. These are the teeth which are required, when, as is sometimes the case, a "set of pretty teeth" is sought, rather than a pretty set of teeth. These, which, according to the great Physiognomist, "belong always to good men"—but it is suggested, with all deference to such high authority, that, with more truth, it might be said of the fortunate possessors—to such men belong always good teeth!

It would, perhaps, be well, in this connection, to recall to your minds the fact that the "cuspidati," from their greater thickness, have the appearance of being slightly darker than the "incisors," and to suggest that a proper choice of teeth, based upon this knowledge, would add materially to the "life" of a piece of work.

The style of artificial teeth should always be in accordance with the features. What is more commonplace than such remarks as—"the mouth is too large," or "the nose is too long." Now, to what are these opinions due? It is simply, that one or the other of these features is not well adapted for a component of the whole; that by it, the harmony is destroyed, and a bad effect produced.

To the teeth, in no less degree, is oftentimes attributable, not only loss of beauty, but expressions really unpleasant. Who is there that

has not occasionally met with specimens of mankind, whose otherwise noble faces were rendered even puerile by teeth, which would have been charming in the mouth of a young and roguish girl; or who has not felt regret, when the parting lips of some delicately formed female have disclosed the huge incisors which generally pertain to the overgrown school-boy. Just so may artificial dentures be the means of adding to, or taking from, the amount of comeliness which one possesses.

The style of teeth, in connection with the style of features, should be one particular point for observation to the dentist who would excel in the more pleasing expressions which may be given by artificial work. The matter of taste, however, is so diversified, that I deem the *suggestion*, that each should *observe* in this respect for himself, probably of more advantage than an attempt to lay down certain rules, which should be taken as guides for all.

Upon the *arrangement* of the teeth, depends more than one would at first imagine—for this, too, may be carried from the perfect hideousness and stiff precision of total ignorance to the graceful, easy position, which is the result of a thorough anatomical knowledge of the subject; it is by this that the nationally characteristic expression is given; by this, that the deformities occasioned by the prognathous and receding jaws are corrected; by this, that the old familiar expression of a friend is, in a great measure, restored; by this, probably, more than by aught else, that detection is defied. Very rarely do we see the natural teeth arranged with even an approach to strict precision, appertaining to their labial surfaces, and when one meets such, how irresistible is the conclusion that they are artificial! *Never* do we see that stiff regularity of articulation, which it appears to be the *aim* of so many pretenders to accomplish, except in cases where by direct contact of the cutting edges, the dental organs have been worn away by the act of mastication, a misfortune which is very properly considered a *deformity*. By an examination of skulls which possess good dental developments, a knowledge of the general relative position and differences in arrangement of the teeth may be acquired; but though by that means one will learn, for instance, that the “laterals” are generally shorter, though sometimes longer than the “centrals;” that the mesial surface of the former is generally more protruding than the lateral surface of the latter; that in fact the position of each of the six anterior teeth, especially those of the upper jaw, though necessarily *upon* the line of the true arch, so far from being in unison with it, is diagonally across it; and that the teeth of either side have their peculiarities; still it is only upon the living, that the *expression of arrangement* can be

studied to any advantage, and upon this subject, unlike the *practical* study of many other branches of dentistry, it is certain that ample opportunity will be offered to the young practitioner for forming correct ideas; he has but to make for himself a general classification of faces and every smile will be to him a lesson.

And now, gentlemen, in concluding, permit me to express the hope that I may have presented some suggestions, which, being acted upon by you, will add to the *true* beauty of the productions of a field, than which dentistry offers none more extended, for the exercise of intelligence and good taste.

J. FOSTER FLAGG, D. D. S.

For the Dental News Letter.

CHEOPLASTIC PROCESS.

TO THE EDITORS OF THE DENTAL NEWS LETTER:—*Gentlemen*:—May I ask you to do me the favor to insert in your periodical my reply to a question not long since put to me? I give it thus publicly, because it involves a question of more than personal application, and may possibly arise in the mind of more than the one asking it.

The question was in reference to the "Cheoplastic Process." "How can you countenance a thing, calculated as that is, to degrade the profession?" The degradation consisting, in the opinion of the querist, in so simplifying certain details of dental work, as to render unnecessary the application of great skill, and so far forth, placing men of inferior capacity on a par with their superiors. My experience in the use of said process tells me that, *equally* with any other, it demands skillfulness in conducting its details, and that the results produced, will as unerringly mark the capability of the operator: that none but the highest skill can make the most perfect work, and that the bungler will assuredly meet with failures in this, as in everything he undertakes. So much for this process. I pass now to a more general consideration of the question.

We judge of the perfection of an art mainly by the beauty and fitness of the work produced, and the artist takes rank accordingly. Secondary to this, is our admiration of the skill shown in the details of its construction, the patience and ingenuity in overcoming difficulties. But it is an error to suppose that, by removing certain of these difficulties, we take from the value of the result, or the merit of the artist. On the contrary, it is true, in both science and in art, that whatever conduces to simplicity of arrangement or of detail is, just so far, an improvement.

To carve an "ivory base" to fit the irregularities of the mouth,—to grind a "porcelain base" to fit the same,—to fit a gold plate with hammer and tool, without the use of dies. These require a patience and dexterity admirable in themselves, and which only long practice gives; but it could hardly be said, that dental art was degraded by the substitution of processes, which, in less time, and with greater accuracy, gave the desired correctness of adaptation; for now the ivory carver and the metal worker may use the hours of their former tedious work, in improving themselves in other directions. Here lies a broad principle, which, applied to dental mechanism, may be stated thus:—whatever method enables me to make a piece of work in one day, equal in all respects to that which before required two days, places it in my power to do more honor to my profession, by employing the time thus given me, in self-improvement. In this view, there ceases to be any honor due one process, however difficult, merely because of such difficulty, provided the *same* end can be gained by a less tedious one. Let, then, the routine of the laboratory be simplified to the utmost; the man of highest skill, carefulness and conscientiousness, will be the first to profit thereby, and will thereby be enabled the more to adorn his profession, and may rest assured that he is as far as ever above the common herd.

Would you have me tell you what *does* dishonor our profession, in the department of practice now under consideration? It is dishonored by the wretched work that is found everywhere, accepted by those who wear it as a fair exponent of the capabilities of dental art. He who undertakes duties for which he has neither natural or acquired dexterity, disgraces his calling. He who is ignorant of his deficiencies is only less culpable than him who is aware of them, yet neglects means open to him for improvement. But beyond comparison, more dishonoring is the man who, knowing both what good work is and how to do it, suffers that to pass from his hands which he knows could be better done, or should have been differently done. The higher his reputation, gained perhaps by previous pains-taking, the deeper is the injury he inflicts.

I have never yet heard the reasons assigned, that could justify an operator, either in slighting his work, or doing it other than in the way his best judgment dictated. "My patient insists upon so and so." Would any jury acquit a physician of murder, because the patient *insisted* upon his giving the fatal dose? These are questions of option and matters of taste; but, in all essential points, the dentist must be an autocrat in his office, or pay the certain penalty of yielding his

better judgment, whether done through weakness or fear of losing a patient.

Now for the reasons given by those who slight their work: First, there is too much to do; secondly, the price received will not justify; thirdly, time engrossed in "operating," and can't look after the "mechanical;" fourthly, but unacknowledged, indolence. The last needs no comment. The third I hope at another time to consider more fully than I can here do, and therefore do nothing more than name. The first and second I could not speak of as fully as I desire, without exceeding my limits of space, as I fear I have already done. He who has more work than he can do well, has too large a practice, and should at once lessen it by raising his prices. He who works for prices that will not remunerate his utmost skill, must bear the blame on his own shoulders. The "Cheoplastic Process" may give temporary relief to both, by its economy of time and material, but the benefit cannot be permanent in such cases, for the evil lies deeper and springs from a want of moral integrity. I say it boldly and unhesitatingly, he who abuses the confidence of his patients by slighting his work, disgraces his profession, and is without excuse,—he lacks that moral integrity which underlies all true worth.

P. H. AUSTIN.

For the Dental News Letter.

MECHANICAL DENTISTRY.

BY T. L. BUCKINGHAM, D. D. S.

Our profession may be divided into two grand divisions: the operations upon the natural teeth, which is called operative dentistry, and mechanical dentistry, or that division which supplies artificial substitutes for the natural organs.

There are many who desire to have these divisions observed, and have one class to operate on the natural organs exclusively, while the other shall confine themselves to the other branch.

I would have no objection to this division, if it could be made, but the two branches appear to me to be so intimately connected together that it is impossible to separate them. In my opinion, we might as well separate the practice of medicine from surgery or obstetrics, as to divide the operative branch from the mechanical in our profession.

Extracting teeth and roots and treating the diseases of the mouth, when performed to get rid of these annoyances, and to restore the mouth to a healthy condition, belongs to the operative branch, but when these operations are performed to prepare the mouth for the artificial substitutes, they then belong to the mechanical. Just as the

surgeon prepares his patient by a course of medicine to have operations performed, so the mechanical dentist should prepare the mouth to receive his piece of work. By not being well informed in both branches great injury is sometimes done.

One class of operators are disposed to save all the natural teeth that can be retained, and by doing so, many times are not able to put in a piece of work which will give as much satisfaction as it would have done had some of the diseased teeth been extracted. I have known more than one patient who has been kept running to their dentist to have a tooth added to the set, or clasp extended to another tooth, merely from the fact of the operator not preparing the mouth properly at the commencement. Another class of operators run to the other extreme, and extract many teeth that should be saved, so that they may be able to make a smooth and continuous piece of work.

By following either of these courses, we do injury to our patients ; and it is only by understanding both branches that we can determine the best course to adopt. I admit there are cases where different operators would operate differently, but when they are well informed upon both branches, these cases are very seldom met with.

It will be seen from the above, that I claim for the mechanical branch of our profession, a knowledge of a branch of science that has never been awarded to it, viz : a knowledge of Anatomy, Physiology and Pathology of the natural organs.

But most dentists have drawn the line of division in a different place from where I have placed it. They claim for the operative, all operations on the natural organs ; and do not even stop here, but take the impressions and perform all other operations which require the patients to be present. This leaves to the mechanical branch, only the mechanical manipulations in the laboratory with the science connected with these.

I might go on to show that the mechanical branch, even with the separation made here, has an amount of science connected with it sufficient to occupy any one almost a lifetime to investigate.

Plaster of Paris, wax, moulding sand, and the metals used for making casts, have all a history, and physical as well as chemical properties, which should be understood. Refining and preparing gold and silver is an operation in itself, requiring a very great amount of knowledge as well as skill. And the manufacturing of porcelain teeth is a branch to which men of science and energy have devoted their whole lives, and yet there still remains much to be learned. But I do not wish, at the present time, to point out how, or to what extent,

science is connected with the mechanical branch of our profession. I only want to draw the attention of the profession to injury done to this branch by the course generally pursued at the present time.

I allude to those who prepare the mouth and take the impression, and then hand the cases over to an assistant in the laboratory to finish. That no assistant can make a piece of work so that it will fit properly, and give satisfaction to all parties, I think will be admitted by all. It is necessary to see the mouth and to understand the condition of the parts before we can make even a cast, particularly where there are teeth remaining in the mouth.

Every operator knows that it is impossible to take a correct impression of the mouth in cases where there are teeth remaining. The crowns of the natural teeth are larger than their necks, so that any substance we can use for taking impressions is dragged out of shape before it can be removed from the mouth. These imperfections can only be corrected by trimming the casts, and this must be done by one who has seen the mouth.

Where the casts are imperfect, the clasps when they are used, are very likely to be set in such a way as to do injury. They may not set close enough to the teeth, but leave a large space for food to lodge, or they may press too hard on one side of the tooth and push it out of its natural position, or the clasp may be set so close to the gum as to irritate it, and cause inflammation to be set up. I have no doubt but that much of the injury done to the teeth by clasps, has been owing to the imperfect manner of setting them. But if the plate and clasps cannot be made properly by an assistant, much less can the teeth be selected and arranged to suit the case.

Any person who has paid the least attention to the teeth, knows that there are not to be found two set of natural teeth exactly alike. But every person knows that sets of artificial teeth are made as nearly alike as they can be, and this arises from the practice of allowing those who have not seen the patient, to select and arrange the teeth. Now, in inserting artificial teeth, we should imitate the natural organs as nearly as possible. I do not wish to be understood that the artificial teeth should in every case be like the natural teeth that have been extracted. They may have been irregular in some way, either by being too large and projecting, or by standing irregularly in the mouth. We can sometimes improve the appearance, but to do this it is necessary to study the features of the face so that one organ or set of organs may harmonize with the rest. To do this, it requires judgment and taste as well as skill. It is a reproach on our profession that,

with materials that imitate the natural teeth so nearly, we do not make our artificial teeth more closely resemble the natural organs; and the reason, in my opinion, is because we, in too many cases, pay too little attention to selecting and arranging them, but allow it to be done by some person who has never seen the patient, and consequently, they must be made similar to some other case that has been made before.

For the Dental News Letter.

A SIMPLE METHOD OF OVERCOMING A DIFFICULTY.

In filling teeth, a very difficult part of the operation is to keep the moisture away from the cavity. There are some cases, in which the secretion of saliva is so great, that it is impossible to prevent the cavity from being overflowed, and we are obliged to do the best we can under the circumstances; these are extreme cases, however; by making use of the right means, and with care, we are usually able to keep the saliva from interfering with the operation. But where the cavity to be filled is situated on the proximate surface of a tooth, near the gum, the great obstacle in the way of a good operation, when "annealed gold" is used, is the secretion of mucus. In some cases, too, the gum projects slightly into the cavity, and in the course of preparation, may have been slightly wounded so as to bleed easily.

Several methods have been suggested to overcome this difficulty. A wedge of wood, in cases where it is admissible, is sometimes thrust between the teeth so as to force the gum out of the way, and so compress it as to stop, for the time, the secretion of mucus, and the bleeding. Where this cannot be done, the gum is sometimes touched with nitrate of silver, or chloride of zinc, and the natural action of the vessels suspended for the time. Dr. Jack proposed and practiced, he states, with satisfaction, packing a very small piece of bibulous paper under the free edge of the gum.

A very simple method has lately suggested itself to me, which I have put into practice with so much satisfaction that I communicate it. I have at hand a number of the india-rubber tubes used for regulating the teeth, of several sizes. From one of these I cut off a small ring, taking the sized tube suitable for the case in hand. This ring is passed around the tooth to be filled, embracing it alone or several others if necessary; it may be brought up against the gum with so much force as to press it out of the way, if it projects into the cavity, and to compress it so as completely to stop the mucous secretion, or any slight bleeding. The use of this appliance for the purpose proposed is so simple as to require no further explanation. It is only necessary to try it to be convinced of its value.

R. ARTHUR.

For the Dental News Letter.

AMERICAN DENTAL CONVENTION.

The third annual meeting of the "*American Dental Convention*" will be held in the City of Boston, on Tuesday, the first day of August next, at 12 o'clock, M.

This Convention is open to "*all practising Dentists*," and it is hoped that the profession will be largely represented.

State and local Societies are expected to send one or more delegates.

At the last annual meeting the following resolution was adopted:

Resolved, That the Corresponding Secretary request all persons having anything new and useful to the Dental Profession to present it at the next meeting.

W. W. ALLPORT, *Corresponding Secretary*.

Chicago, March 16th, 1857.

For the Dental News Letter

"ALL RIGHT ON THE GOOSE QUESTION."

It was our lot a few days ago to remove a large plug from a large molar. The tooth was exciting a great deal of pain; it was blue, the gums were blue and spongy, the tooth sore to the touch; it was in a "stew." When the plug was removed, there was no small amount of decayed dentine, dead pulp, pus and fetor. The operator had evidently not been adhering very closely to strict rules of practice, nor had his poetical imaginings been uppermost; although "nature's noblest gift," the "gray goose-quill," formed the foundation of his plug.

J. D. W.

For the Dental News Letter.

PHILADELPHIA COLLEGE OF DENTAL SURGERY.

The Alumni of "The Philadelphia College of Dental Surgery" met, pursuant to adjournment, in the College rooms. A large number of members were present, and much interest was manifested. Two interesting papers were read, which called forth remarks from various members. After the election of officers, the association adjourned to meet at 9 o'clock, A. M., on the morning preceding the annual commencement of the "Pennsylvania College of Dental Surgery."

The following are the officers for the ensuing year: D. McFarlan, D. D. S., President, J. Foster Flagg, D. D. S., Vice President; J. Hayhurst, D. D. S., Secretary; J. R. Rubencame, D. D. S., Treasurer.

J. HAYHURST, *Secretary*.

THE DENTAL NEWS LETTER.

APRIL, 1857.

DENTAL COLLEGES.

It has been about seventeen years since Dental Colleges were first projected, and in that time, several have come into existence, and met with more or less success; but some have not stood the "test of time." It does not seem to us that Dental Colleges, as at present organized, will end in the kind of success hoped for by the teacher, as well as by the student. Ours seems to be that kind of art, that depends more upon the *natural abilities* of the learner, than the peculiar method adopted for his instruction. A man able in medicine can better pursue his practice with reasonable success than a dentist, because he can call the best in his profession to his aid; in that way the patient derives every advantage from the most skillful practitioner. Not so in our art; difficult cases alike fall into the hands of the man of ordinary talent as well as into the hands of the most eminent, and consultation in the operation of plugging a tooth is of no use, as in such a case the result will be in accordance with the one who executes the work, if all the profession were looking on. Now, while the case in medicine would meet with entire success, the case in dentistry would be a failure. In law, the pettifogger is never employed in a cause that requires a higher ability, or if he be, his incompetency is detected in time for his client to repair the mischief. While the present system may prepare the mass reasonably well, very few, if they avail themselves of no other means of education, will not equal to the highest standard. Those who are eminent in our art, without having had a systematic education in it, would not be willing to compare with the graduate. The time required by the Colleges is too short for the pupil to acquire a proper development of his practical judgment. There is too much crowded into a short space of time. Very few of the great mass who enter our profession pass through the Colleges, if we should judge by the limited number of annual graduates. If this be true, then the object of the teacher is not attained; at least the object is of very slow development. We have seen very fair results on examination day that were not sustained by subsequent experience. We believe that every one who is engaged as a public teacher is doing so with an honest endeavor to elevate the condition of his profession; yet many will agree

with us, doubtless, that they are not *paid* for their labor. While some may have no higher aim than the pecuniary reward, it is not the kind of pay that the anxious teacher, for the good of our art, most desires. A great reform, however, cannot be effected without the aid of money ; and it is this, most likely, here, at this very point, that weighs most with the Dental student, and effects most the desired success of our present system of collegiate instruction. The system cannot succeed, in an educational or pecuniary point of view, without pupils. The college must hold out the inducement or give the advantage to the student, not the student to the college. Private pupilage is as necessary for the dental student as for the medical ; and when the dental student spends his time as a private pupil in dentistry and acquires as reasonable an amount of knowledge with his preceptor, as if he had been a student in medicine, he will look to the cost of his collegiate course. The most wealthy in the community study law, medicine or divinity for the high degree of education it affords, and to be clothed with its honors, and he counts not the cost. This is not the case in the study of our art. The applicant at the portals of our halls for admission, expects to acquire knowledge by which he may obtain an honest livelihood, and not unfrequently with very limited means at his hands ; and a very few dollars to him during his pupilage is of great consideration. Require the dental student to be better prepared before he enters college and he will cost the faculty less to finish his education. Respectable private pupilage in dentistry costs as much as it does in medicine, and it is here that the dental student determines to take the medical degree, as it can be obtained at a less price than a dental degree at the present high charge. The price of the course of medical instruction will always be in the way of Dental Colleges obtaining large classes. It is an error to found the price of a ticket upon the emolument of a full practice, but upon what the student is able to pay. Doubtless many will agree with us, that smaller fees would have "footed up better at settlement day" than slow notes of a larger figure. We can well understand that a reduction of the ticket-fee, so as to bring it within the reach of a student of limited means, would not pay, in a pecuniary way, an old practitioner, whose time is of great value while employed at his chair, and of still greater in recreation, in doing nothing, instead of delivering lectures to students. It might be said that it is more easy to find fault than to propose a remedy for an evil ; but if the business of teaching was in the hands of well-informed young practitioners, who are not too heavily burdened with practice, and whose time was not worth so much more than the pupil's, it would be one step towards reform.

J. D. W.

Advice to those who use Amalgam.—We would respectfully advise our professional brethren not to plug a tooth with amalgam whose pulp is exposed, or where there is in a nerveless tooth a liability to periosteal inflammation, because if the amalgam becomes hard before the pain consequent upon inflammation in either case ensues, it becomes extremely difficult, and of great suffering to the patient to get the plug removed. We say this, as there is scarcely a day passes that we are not called upon to remove plugs under such circumstances. We have for sometime past adhered strictly to the rule in dental ethics, which requires us to send patients back to their dentist in such case; but succeeded only in one single instance to effect our purpose. We have had so many cases to apply to us within the past year, to have plugs removed for discoloration and other objections to amalgam, that it has become a nuisance, and we henceforth shall refuse to remove them, except in cases where it is to relieve extreme suffering. J. D. W.

Dental Societies.—In our pages will be found a report of the organization of the “St. Louis Dental Society.” We have also been advised of the formation of a “Cincinnati Association of Dental Surgeons.” All this looks like progress in the right direction, and gives evidence of an earnestness in the work which must secure success.

While on this subject, we must no longer neglect noticing a blank Certificate of Membership (a copy of which has been kindly sent us) of the “Western Dental Society.” This Society was organized nearly two years ago, in St. Louis, and held their Second Annual Meeting in Chicago, last Summer. Their next Annual Meeting will be held in St. Louis, on the third Wednesday of May next. Their Certificate is very beautiful and very appropriate in design, combining many emblems of the art.

We heartily wish all such organizations a long and useful existence.

J. R. M'C.

A New Work on the Treatment of the Pulp.—We have been pleased to learn that Professor Arthur is now engaged in the preparation of a work on the “Treatment of the Pulp,” not merely a second edition of his former book on this subject, but one greatly enlarged, and we have reason to believe, much improved.

Of the former work, but a limited edition was printed, which was exhausted in a few months after its appearance, and a large demand was consequently unsupplied. We, therefore, anticipate an extensive demand for the one now in course of preparation.

J. R. M'C.

Baltimore College of Dental Surgery.—The Seventeenth Annual Commencement of this College was held on Friday evening, February 27, 1857, in the new Assembly Rooms, before a large and fashionable audience. Music by the Blues' Band.

Announcement of Graduates by Professor P. H. Austen. Degrees conferred by Professor C. A. Harris. Valedictory Address, (one of a superior character,) by Professor J. E. Bond.

Graduates, 20; Under Graduates, 25; Total, 45. J. R. M'C.

Ohio College of Dental Surgery.—The Commencement exercises of the Ohio College of Dental Surgery, were held on Wednesday evening, February 25th, in the Public Lecture Room of the College, in the presence of a numerous and highly intellectual audience. The exercises were opened with prayer and reading a portion of the holy scriptures, by Rev. B. P. Aydelott, M. D., D. D., President of the Board of Trustees, after which he delivered an address on "The Professional Studies of the Dental Pupil;" (see March number of *Dental Register*;) presented each of the graduates with a copy of the Holy Bible, and conferred on them the Degree of "Doctor of Dental Surgery." The Valedictory Address to the graduates, was delivered by George Watt, Dean of the Faculty, his subject being "The Dental Profession and its Appropriate Work." (See *Dental Register*, as above.) The audience was then dismissed with the Benediction.

The class of 1856-57 was composed of Graduates, 5; Juniors, 18; Total, 23.

Pennsylvania College of Dental Surgery.—The Annual Commencement of this School, was held at the Musical Fund Hall, on the morning of February 26, 1857, in presence of a very large audience. Announcement of Graduates by Professor Arthur. Degrees conferred by H. C. Carey, Esq., the President of the Board of Trustees. The Valedictory—which will be found in our pages—by Professor Elisha Townsend. Number of Graduates, 13; whole number of matriculants, 33. We append the names of the graduates:

Henry Winterbottom, Pennsylvania; Henry Avery, Pennsylvania; Geo. W. Wemmer, Pennsylvania; Chas. E. Hopkins, New Jersey; Edmund Stevens, Maryland; Benj'n J. B. Davis, M. D., Pennsylvania; Thos. McCune, Ohio; John P. O'Daniel, Delaware; Robt. McKissick, Pennsylvania; Thos. W. Walker, Pennsylvania; W. H. Longsdorf, M. D., Pennsylvania; W. H. Allen, South Carolina; Edwin L. Cowan, New Jersey.

J. R. M'C.

Artificial Dentures Dutiable.—We have seen it stated in the papers, that a gentleman passing from the United States into Canada, in the neighborhood of Niagara, offended the Custom House official, in his reply to the question, whether he had anything in his carpet-bag subject to duty, and that the officer subsequently seized a set of teeth mounted on gold plate, which he found in the gentleman's room in the hotel, as subject to duty, being of American manufacture.

We suggest that "John Bull" should not compel "Jonathan" to "show his teeth" when entering her Majesty's dominions.

As well might be seized the *clothing* on the back, or the *money* in the pocket of the American traveler, as being of American manufacture. A suit for *robbery*, in such a case, could be brought with great justice, and, we think, abundantly sustained.

J. R. M'C.

Dental Register of the West.—Just as we go to press, we are in receipt of this journal, for March, and on looking hastily over it, find much we would like to select from, but want of space forbids. We shall endeavor, however, to pay due respect to this number in our next.

J. R. M'C.

Communications.—We acknowledge the reception of a communication from Dr. F. C., of Germany, which came too late to appear in our present issue, but will find a place in our next.

We would again mention, that all original articles for publication, should be received by us as early as the 10th of the month preceding the date of publication.

J. R. M'C.

L'Art Dentaire, or the Dental Art, by Drs. Fowler & Preterre, Paris, Vol. 1, No. 1.

This is a monthly journal and review of Surgical and Mechanical Dentistry, of thirty-two pages, and filled apparently with interesting matter. On another page will be found a translation from it, of a very interesting case, in which the complete loss of the lower maxillary was remedied.

J. R. M'C.

On Cover will be found numerous advertisements, among which, that of Drs. Oliver & Harrison, in reference to their new method of mounting teeth, to all of which, we would direct attention.

J. R. M'C.

DENTAL SURGERY—DENTAL PROSTHESIS.

[A case, possessing a twofold interest in its relation to operative surgery and Dental Prosthesis, has just been exhibited to the scientific societies of Paris ; we allude to the complete removal of the lower maxillary. The operation was performed by M. Maisonneuve, and was only resorted to after having exhausted all remedial means for the cure of a fibrous tumor of an enormous size, involving the whole jaw.

The operation was entirely successful, and the parts healed up mostly by first intention ; M. M. Fowler and Preterre, American Dentists, overcoming the difficulties of every description presented by the nature of the case, constructed an apparatus which entirely supplies the loss of the lower maxillary, and enables the patient to speak distinctly and masticate properly his food. We need hardly say that such a triumph of the Dental Art makes us, and ought to make every practitioner, proud of our noble profession.

We believe this case to be the first where the loss of the entire maxillary has been remedied, and as it seems to us, at least to possess more than common interest, we will proceed to give some of its details for the benefit of the profession.] Translator.*

Entire Removal of the Lower Maxillary on Account of an Enormous Fibrous Tumor Developed within the Bone.—Jerome Isamat, æt. 33, applied April 11, 1856, at the hospital De La Pitié, to M. Maisonneuve to be treated for a serious affection of the lower maxillary. This affection, which the patient could trace back eight years, had begun on the right side of the jaw. It first manifested itself by a general swelling over the body of the bone ; then the gum began to swell ; the teeth became loose and dropped. In their place appeared a hard fibrous tumor, which gradually invaded the buccal cavity, whilst on the outside the bone continued to enlarge.

All this progressed slowly, and occasioned no pain, so that the patient was but little troubled about it. It is only eighteen months since the difficulty of deglutition and speech, added to the hideous deformity of his countenance, induced him to submit to a regular treatment.

For nearly a year he was under the influence of mercurial, sulphurous and iodine preparations, without any check to the progress of the disease ; then his physicians advised him to come to Paris, and consult the masters of the healing art. All were of the opinion that life was seriously endangered, and that an operation alone could offer chances of safety.

The disease at that time involved almost the entire maxillary, but on the right the development was much greater ; on that side the external swelling equalled that of a closed fist. The buccal cavity was almost completely filled, the tongue and velum palati pushed

* C. A. Du Bouchet, M. D., D. D. S.

back. On the left the tumor protruded much less, but it was easy to ascertain that it reached the base of the ramus.

Over its entire surface the tumor was firm and resisting; exteriorly, it had a bony hardness, whilst within the mouth it felt like fibrous tissue. The mucous and cutaneous teguments presented no alteration, and easily glided over the tumor. No engorgement appeared in the vicinity of the glands, and the general health of the patient was excellent. Such was the condition of the parts when M. Maisonneuve, on the 15th of April, performed the operation.

The patient being placed under the influence of chloroform, M. Maisonneuve made a vertical incision of the lower lip at the median line, and continued his cut in a horizontal direction to the masseter, taking care to cut deeply through all the soft parts.

The maxillary was then divided at the median line by means of the chain saw; then, with the finger and blunt extremity of curved scissors, he detached the soft parts exteriorly and interiorly, taking care at the same time to dissect also the periosteum. This required much time and was a very laborious undertaking, on account of the size of the tumor, and its great protusion within the buccal cavity.

An attempt was then made to dislocate the maxillary, in order to bring forward the coronoid apophysis, but the bone having become very fragile, in consequence of the great distension of its fibres, broke below the apophysis, which being seized by a forceps, was drawn forward and the tendons of the temporal and externus pterygoidus were cut with the curved scissors. This first part of the operation was terminated by the removal of the condyle.

The most difficult part of the operation was accomplished. The other half of the maxillary, although deeply affected, did not present the same protuberance, and the skillful operator did not deem it necessary to make any external cut. Having divided the mucous membrane within and without the dental arch, he pushed the bone out of its periosteum, and cut the maxillary nerve with a bistouri, tore with his finger the masseter and pterygoidus internus, near their insertion; then dislocating the bone to bring forward the coronoid apophysis, cut with curved scissors the tendons of the temporal and pterygoidus externus muscles, and by an abrupt traction, ended the operation.

The extirpation of the right half of the maxillary had required three ligatures; that of the left did not require any. A few rolls of lint were introduced in the cul-de-sac corresponding to the condyle; then they proceeded with the dressing.

M. Maisonneuve deemed it prudent to insert a strong silk thread at the base of the frænum linguæ; then the two halves of the lip, as well as the edges of the horizontal cut, were brought together with a few stitches of twisted suture, to which was made fast the thread run through the frænum linguæ.

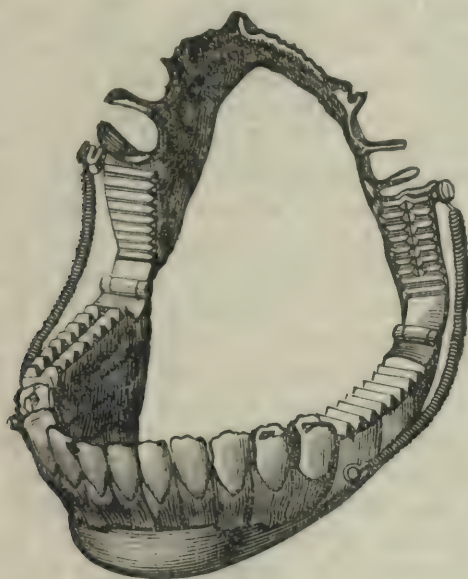
Immediately after the dressing the patient was able to swallow, without much difficulty, a little sweetened wine and water. It was, however, deemed necessary to feed him for two days, by means of the œsophagian tube.

The sequel of this serious operation was exceedingly simple. The patient had hardly any fever; the re-union of the external wound took

place by first intention over the nine-tenths of its extent. On the second day the rolls of lint were removed from the interior; on the fourth day the stitches were removed. From that time the cure appeared certain, and it has proved so.

Four weeks only have elapsed since the operation, and the cure is so perfect, that it is difficult to believe in the possibility of the previous deformity. The features have become regular, and the most practiced eye can hardly find the traces of a cicatrix. The motions of the mouth are preserved; the tongue has recovered its free play; the speech is clear and easy; deglutition is accomplished without any obstacle, and even already may be seen developing itself a dense and resisting tissue, which, thanks to the entire preservation of the periosteum, may possibly, at some future day, undergo the process of bony transformation.

The following engraving represents the apparatus so successfully invented and constructed by M. M. Fowler and Preterre, to remedy the entire loss of the lower maxillary and teeth.



MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

From the kindness of the editors of the "Dental Register of the West," in furnishing us with proof-sheets of the proceedings of the "Mississippi Valley Association of Dental Surgeons," at their last annual meeting, held February 25, 1857, at Cincinnati, we are enabled to give the discussions in full, the whole of which we are sure will well repay a careful reading.

There is much earnestness evinced in the go-ahead style of this society. Three sessions per day—no trifling, no discussion as to forms and ceremonies, but a determination to enter at once upon the work before them, and to make the most of the time and the privileges

afforded them. That each succeeding meeting may increase in interest and in numbers, and thus much good be done, is our sincere wish.—EDITOR.]

FIRST DAY—AFTERNOON SESSION.

Question No. I.—Is Annealed Foil, as now used, preferable to Blocks for Filling, and does it weld as perfectly as "Crystal Gold?"

Dr. Bonsall said he annealed foil in one-eighth or one-tenth of his cases; he did not know much of crystal gold; it was not as satisfactory in his hands as in others, and therefore he used it little. His use of crystal gold would depend upon the shape of a cavity in a tooth; he would be fearful of annealing foil when the mouth of the cavity was small.

Dr. James Taylor remarked, that foil becomes moist from the atmosphere; foil not in use, unless carefully wrapped up, will become moist. Foil in a wet state cannot be made as compact as in a dry state. He annealed after manipulation. Foil that becomes hard he annealed; he was in the habit of sending for a single book of foil only at a time, as foil recently made is the best, and that lately annealed the most convenient for use. When he had a large amount of foil on hand, he had to anneal it often. When he used foil in blocks, he annealed that they might regain that adhesiveness lost by exposure to moisture. He did not know if foil would adhere better than crystal gold, which he was not much in the habit of using. A good plug may be made of crystal gold, but he thought crystal gold apt to crumble. In using crystal gold and afterward in examining the teeth in which it had been used, he had found in the dentine a lamina of bone that looked as if it had been acted upon by muriatic acid. He had learned to manipulate foils, and he deemed that the best mode of plugging which had accomplished his purpose. He could not make as good plugs of crystal gold as of foil, and he thought he could plug a cavity better with foil than any one with crystal gold. He could do much of the labor with foil outside of the cavity, and this was with him very desirable. His object was to reduce the time requisite for the introduction of gold into the tooth as much as possible. The ease of the patient and operator demands this. The brevity of time enables the operator to keep the cavity dry, upon which so much depends. In difficult cavities, in using crystal gold, the crystals become moist, and where moisture does take place, there is less injury to foil than to crystal gold. Foil does not crumble. He was disinclined to throw aside foil after laboring for a number of years to use it successfully. A plug that will not come out and will exclude moisture, he deemed a perfect filling, and such a plug can be made of annealed foil.

Dr. Stipher had been experimenting a little; had used foil altogether, and had found annealed foil the best. His instruments were better adapted to using foil.

Dr. Baxter used foil. With foil he could fill a cavity more rapidly than with crystal gold, and therefore he preferred foil.

Dr. Richardson had had no experience with annealed foil as recently used. He had been in the habit of filling with foil as blocks. The

adhesiveness of foil was proved by the ring Dr. James Taylor had shown to the members of the Convention, which ring was made of foil, and had been worn for some time. In filling a tooth the excellence of the filling depended upon the care in preparing and putting in the gold. More skill is required in using crystal gold and annealed foil than foil in its ordinary state. He had filled with crystal gold, and he believed it good; he thought it would make excellent plugs.

Dr. Keely said, that while some liked the crystal gold, his experience had induced him to prefer foil well annealed.

Dr. Ullery used gold foil, sometimes annealed and sometimes not. He could make a better filling by annealing. He had known crystal gold to crumble, and had been compelled to take it out; although he believed that those operators had been successful with crystal gold, who had had much practice with it. He did not know how long crystal gold would last; thought it would last as long as foil. Annealed foil made, he said, good enough plugs for him.

Dr. Osmond said, that annealing foil made it hard. By annealing gold he made a good filling. Sometime before he had a book of gold foil that had become rather damp. He could not use the foil, and therefore he put it in between two flat irons, heated to the temperature that laundresses give them; letting the steam escape by raising the iron occasionally. After undergoing this process, he found that foil dry and good; he wanted no better. He preferred this process of removing the moisture from foil, because placing it over a flame is apt to harden it too much.

Dr. Taft annealed gold by the method explained by Prof. Arthur; he either tore it up and then annealed it, or annealed it first. He liked annealed foil for filling, because of its cohesiveness, and its capacity to be solidified. There was no doubt of the cohesiveness of its particles, to such an extent that they could not be separated. In filling a cavity of a tooth, the annealed foil will sometimes harden in the centre and not at the outside. If an operator carelessly make his pellets too large, they are apt to become fastened at the centre, and do not go to the walls of the cavity. There is much difficulty in making an adaptation to all parts of the cavity. Annealed foil may be best used in small pellets, and in applying them to the walls of the cavity first. It is difficult to fill some cavities with foil. Operators in endeavoring to work the annealed foil over or under a projection of a tooth, fail to make a perfect adaptation. If one wish to use annealed foil, perfectly, it is objectionable to form it in blocks; it is better torn into fragments. He in general, however, preferred crystal gold.

SECOND DAY—MORNING SESSION.

Dr. McClelland had tried annealed foil, and found some difficulties in using it. In approximal cavities he had used foil. In filling cavities with annealed foil, he had discovered that on account of its cohesiveness, it would adhere to the plugging instrument when he wished to draw it out. He preferred ordinary foil perfectly dry to annealed foil. When foil was moist, he placed it on a platinum plate over a spirit lamp. He used crystal gold in certain cases, that seemed to require it.

Dr. Spalding knew something about the use of blocks and about crystal gold. He had not tried annealed foil as described by Prof. Arthur, but had used crystal gold extensively. A few days before he had examined crystal gold plugs inserted by him some years previously, and had found them in excellent condition. He had rarely known crystal gold to crumble, and when it did, he attributed it to the impurity of the article. He always used crystal gold for apertures deep and narrow ; for filling underneath projections and shelving portions of the teeth. If the cavity was not large enough, he would excavate it. Where the cavity was irregular, he rendered its walls perpendicular with crystal gold before using foil, which he usually formed into cylinders. The greater portion of his foil he annealed ; but for finishing the plug he did not anneal. The adhesiveness of foil depends upon its purity. While the gold at the manufacturers is in the form of a precipitate, it is washed, and if washed clean, it will adhere. Great care should be taken to remove from the precipitated gold the iron, the sulphate of which is ordinarily used for the purpose of precipitation. The welding together of foil depends upon its mechanical position ; the layers should be placed on one another, so that each particle may adhere to its fellow. In the form of pellets, foil requires great force and skill in driving them home. Foil, in his hands, not only received moisture, but a portion of organic matter, and consequently before using it, he applied heat enough to expel the moisture and consume the organic matter. In what is termed annealed foil, he did not know that enough heat was applied to be considered annealing, properly speaking, which meant the application of heat sufficient to give the particles an opportunity to rearrange themselves. Foil, to be fit for use, must be clean and pure. In most cavities he used gold foil in the form of blocks or cylinders ; he had used crystal gold also, as he had stated, but could not use it with the same facility as foil. He occasionally used pellets, but deemed them imperfect. His foil was No. 4, but considered the number unimportant.

Dr. Branch.—With him crystal gold had proved a failure ; he thought mercury was in the gold, from its turning black after it had been employed in filling. He had obtained all his knowledge of crystal gold from a treatise he had read on the subject. He had used unannealed gold for a long time ; but about five years before, he began to anneal his foil, and had recently been employing adhesive foil in his practice. His custom was to fill from the bottom of a cavity up. Where there was no irregularity he made one. His operations had been most satisfactory with adhesive foil. Where an incisor was broken off, or where a cavity was shallow, he drilled one or two small holes into the teeth, and introduced adhesive foil therein. The instruments he used in plugging, were sharp and swallow-tailed in shape, but at the close of the work, he employed blunt implements. He had known a very successful operator, Dr. Ballard, whose instruments,—small and star-shaped at the point,—packed the gold by interlocking. As to annealed foil, he believes with Dr. Spalding. Foil was often better prepared for filling teeth by heating ; the particles seemed better arranged and much more apt to firmly cohere.

Dr. Hamill had, during the past year, used crystal gold for filling

teeth, and preferred it. He thought when one had a good article, and persisted in using it, he would prefer it to foil, which, however, he employed, where rapidity was necessary.

Dr. Walker had had no experience in crystal gold. The greatest recommendation of foil is, that it can be entirely prepared for filling outside of the mouth.

Dr. Baxter remarked that gold foil, by pressing it directly against other gold, would not adhere; that the adhesion arose not from the pressure, but the manner of pressure. An oblique method, therefore, of using instruments in plugging teeth, would be apt to render the filling most secure.

Dr. Taft desired to call attention to three of the chief points evolved during the discussion. I. Dr. Spalding's method of filling under cavities with crystal gold. II. The filling of cavities referred to by the same gentleman, with annealed gold, and then closing with unannealed foil to prevent adhesion. III. The method mentioned by Dr. Branch, of using drills for making retaining points, where a cavity was shallow, that the filling might be more secure. The latter point was introduced to the public, by Dr. A. S. Talbert, in a paper read here several years ago.

Dr. McClelland, had found the drilling of teeth, particularly front ones, from their sensitiveness, painful to patients, and therefore, preferred excavation. In such cases, he employed a hatchet. He first inserted a block extending outward, then a block against the gum. He used a blunt instrument first, and afterwards a sharp one. After plugging, he filled, and repeated the operation of filling at different times. For polishing fillings, he employed the leather that had been used by daguerreotypists, as it was full of crocus.

Dr. Spalding, in filling, used blocks of a tapering shape, and left the last points to be plugged of a conical form. In the last filling, he introduced instead of a cylinder, a cone, with the apex downwards.

Dr. James Taylor, in double cavities, central and approximal, used cylinders for filling and a sharp instrument. The longer he practiced the more he adopted his cylinders and cones to the cavity. The perfection of filling depends upon its solidity. He was opposed to plugging front teeth in any way, that revealed the gold. In filling, he did not build up upon a slender foundation, but cut away, and built where there was strength; but he doubted if this was good practice.

Dr. Spalding folded the foil before filling, after cutting it in the shape of ribbons; but did not know if this was the best form. He obtained his gold from the manufacturers, five or six layers together, and cut it with tailors' shears. He thought the foil more adhesive in this way.

Mr. Leslie, manufacturer of foil in the city, being present, was invited to address the Convention, and show by experiment the adhesiveness of foil, and his mode of annealing it. He said that dentists were largely dependent upon the manufacturers; that those could not succeed unless they obtained first-rate articles to operate with. A long time ago, he continued, Mr. Bull, in New York, made foil of a superior richness in color, and afterwards Mr. Abbey also. It was thought this fine color was owing to the purity of the metal; and how

it was obtained, remained a mystery for a number of years. Mr. L. and his brother, after many experiments, discovered the peculiar hue was caused by heat, and that its color was changed by that agency. What dentists now so much desired—adhesiveness in foil—he had spent years in trying to get rid of. After foil has been annealed, the effect of annealing will pass off, and it can again be annealed by placing it over burning alcohol. (Mr. L. showed this by experiment; putting his foil on a small frame of common wire, that answered the purpose he said, as well as platinum plates or anything else.) Foil is adhesive in winter as in summer; but where there is moisture it will not adhere. He believed that foil would answer every purpose of crystal gold. By breaking the crystal gold one breaks the crystals, which are only of the size of the blocks. The bar gold has the same appearance as crystal gold. Manufacturers precipitated gold by protosulphate of iron (copperas), which mixed with the gold, and should be carefully washed off. It is, however, extremely difficult to separate all the iron from the gold; and it is the oxide of iron which, by heat, comes out upon the surface, and gives the foil its richness of hue. The oxide of iron insinuates itself through every particle of gold. Mr. Abbey's foil never adheres, unless he makes it so to do purposely. Crystal possesses no more adhesive quality than foil.

SECOND DAY—AFTERNOON SESSION.

Question No. 2.—Is the exalted sensibility of decayed teeth the result of inflammation?

Dr. Taft believed the determination of this question very important, for on an accurate knowledge of it depends the proper treatment of sensitive teeth. He believed their exalted sensibility did proceed from inflammation, although some of its signs, as redness and enlargement, can not, of course, be traced in osseous structures. The exalted sensibility decayed teeth have, is one of the most prominent indications of inflammation. Inflammation in the constitution, generally induces inflammation in the teeth; and whenever there is a disposition to inflammation in the former, it manifests itself in the teeth. The treatment used for inflammation elsewhere may be employed satisfactorily for the teeth.

Dr. McCollum believed it was inflammation. The pulp of the tooth is excited, inflamed, when the dentine is sensitive.

Dr. Branch thought inflamed dentine a proper expression, and said it would yield in nine cases out of ten to a mild alkali. He had tried this method very successfully with many of his patients. Give persons complaining of their teeth, a wash or powder, containing soda or some other gentle alkali; and it will seem to remove from the dentine the acid, the presence of which is an indication of inflammation in the bone.

Dr. Walker and Dr. Ulrey, were of the opinion it was inflammation, but could not easily give reasons for their belief. The question, at best, was one furnishing more scope for speculation than for scientific investigation.

Dr. James Taylor deemed the question of great importance. Inflammation had certain symptoms,—enlargement, redness, heat, pain. Here is a circulation in dentine, which is made up of small cells or tubes. No bodies but organized ones, those having nerves, can be inflamed. Dentine has pain, and by analogy increased heat. There may be inflammation in dentine without exalted sensibility, as in cases preceding mortification. A particular form of disease is very prone to affect the teeth, and certain acids increase their sensibility. It was of the utmost importance to arrest disease in the mouth, and he believed the time would come when this great desideratum would be accomplished.

Dr. Osmond asked, if the exalted sensibility of decayed teeth resulted from inflammation, whether that inflammation was active or passive? The tooth of a healthy patient may have an active vitality and an active inflammation. Teeth must have circulation. In poor, scrofulous patients, there will be a passive inflammation. Stimulants affect sensitive dentine. Teeth, although looking well, decay suddenly sometimes. A body resists decay in proportion to its vitality. The sensibility of dentine is affected by reducing the vitality, and consequently the anti-phlogistic treatment must be good for active inflammation. Inflammation of dentine results from inflammation of the sheath of the nerves. General pathology, as understood and employed by the doctors of medicine, should regulate dentists in their treatment of sensitive dentine, rather than a disposition to use destructive agents.

Dr. Richardson expressed the opinion, that the exalted sensibility of decayed teeth, in some cases depends upon inflammation, and in others, does not. In healthy patients the dentine may be in a state of exalted sensibility without inflammation. There is a great difference, as every one knows, in the fortitude of persons, owing to temperament and constitution. Exalted sensibility seems owing to the pulp. Dr. Salter, who had experimented considerably upon decayed teeth, had found in them a deposit in the pulp. Dr. Richardson had no doubt that inflammation often arises from the pulp; that the source of inflammation was frequently there. Exalted sensibility at the extremes of the nerves, may exist independent of the dentine, in which he did not believe there was a vascular circulation. There can be no question about teeth being vitalized substances; they are as really so as anything else. Much of the common bone itself, however, is unvascular. He was of the opinion that dentine is capable of inflammation.

Dr. Spalding said, the high degree of sensibility of decayed teeth, is shown by the decomposition of dentine. May not the nerves or their sheaths be affected by their sensibility?

Dr. Osmond said, that in the case of neuralgia, pressing upon a nerve always relieves; not so upon dentine, whose inflammation, as he said, arose from that of the sheath of the nerves. In perverted nutritions, decay of the teeth occurs more rapidly.

SECOND DAY—EVENING SESSION.

It had been determined in the afternoon session to depart from the discussion of the questions in numerical order, and to enter upon Nos. 6 and 7, considered together.

What success has been obtained in fang filling? What is the best manner of filling the fangs of teeth?

Dr. Bonsall has had no great experience in fang filling. Some that he had filled eight or ten years before were still good. He had not much confidence in filling fangs, particularly those of molar teeth. He found difficulty in reaching the apex of a fang, in filling it. He did not think filling fangs remunerative either in time or money. He believed it better generally to take fangs out. Many of his patients, after having fangs filled, had come to him to have them extracted.

Dr. Branch's experience was precisely that of Dr. Bonsall. He had understood other dentists had been successful in fang filling, but he had not. He had known of one or two instances only of fang filling completely successful. His reason of failure, he believed, was owing to the non-removal of all the diseased or unhealthy matter in and about the fangs, and often to the fact that the nerves were not entirely killed.

Dr. Spalding said, that if there was anything in his profession upon which he prided himself, it was fang filling. His was Dr. Badger's method. It was essential in filling fangs that the entire nerves should be removed, so that the blood-vessels will contract upon themselves. A dentist should clean the fang perfectly, wipe out the cavity carefully, and operate immediately; if the fang be healthy, the sooner the better. Dr. Spalding usually plugged fangs at the same sitting at which he removed the nerves. In preparing foil for the operation, by folding it of four thicknesses, into triangular pieces upon a broach; leaving a margin over, and twisting it firmly at the end. He gauged the diameter of the canal of the fangs, and selected a roll of foil of the same breadth as that diameter. He inserted a small piece of whalebone as far as he could, and then introduced his cylinders. He could in ordinary cases, fill a fang in five minutes. He deemed the success of fang filling as certain almost as any other operation in his profession.

Some one having asked Dr. Spalding, what course he took when abscesses had formed, he replied, he could usually cure them when there was neither sac nor absorption.

Dr. Spalding remarked, in continuation, that he never set a pivot tooth without filling the fang. In such cases, he took a small broach, right angular at the termination, measuring the depth and breadth of the cavity, and fitted the gold to the measure. He had extracted some fangs that he had filled, and found their filling a complete success. He said many fangs were uselessly sacrificed. He often filled five or six fangs successfully in the same mouth. He removed the pulp with broaches, placing at the end a few fillets of cotton, entirely bleached, all parallel to the point. In filling fangs, his failures were not more than one in forty or fifty cases, and then mostly on account of previous abscesses. After filling fangs, he filled the pulp cavities with sulphate of lime, because they originally contained soft matter. He also capped nerves with plaster of paris. He often found nerves dead in fangs, although there were no traces of disease; the foramen had been closed

by nature. Much caution should be observed in filling fangs for young persons, for their fangs often had hardly ossified.

Dr. Taft had pursued the same method as Dr. Spalding, for five or six years. He had often experienced difficulty in getting into the canal, and had constructed a drill to effect the purpose. He frequently made a hole through the centre of a tooth to the nerve-chamber and canal; it is not necessary to go beyond the foramen. He prepared his gold as Dr. Spalding had described. He thought it better, after removing the nerve, to wait awhile to give time for cicatrization to take place. In young persons the foramen is large, and there was danger of putting in the gold too far. Different persons and different ages require different treatment. Inferior teeth were less easy to operate upon, because more dense; and it was more difficult to destroy their nerves.

Dr. Watt said his experience and success in filling fangs were about the same as Dr. Spalding and Dr. Taft's. In filling fangs where they were healthy, he removed the pulp; he washed out the canal with chloroform or creosote; then filled with gutta percha, to exclude the atmosphere, and to retain the vapor of the remedy used. He relied on the closings of the foramen by nature, and on the antiseptic power of remedies. When these had acted to his satisfaction, he washed out the canal with chloroform, dried with heated air, and filled the cavity of decay, leaving the canal unfilled.

Dr. McClelland had had such success in fang filling, that he regarded it as a crime to extract a tooth unless in case of abscess. He took particular pains to wash the cavity clean, and as soon as soreness subsided, he inserted his filling. In cases of abscess he had drawn off the pus and given relief. Filling a fang makes it sore usually, and patients are apt to bite with and handle it, which frequently inflames the fang. He advised them to the contrary. Campher, chloroform and laudanum will generally remove inflammation.

Dr. Stipher had filled some fangs successfully. In one he used a thread repeatedly as a test filling, but failed.

THIRD DAY—MORNING SESSION.

No. 3.—What constitutional conditions will most predispose the teeth to decay?

Dr. Richardson said, that the immediate cause of decay was the action of chemical agents upon the teeth. Certain conditions of the system, alter the character of the fluids of the mouth so as to act upon the teeth. Dyspepsia or indigestion is the cause of acidity in the mouth, and that of decay. Of decay there may be a local and a constitutional cause, and the former may in time become the latter. Certain conditions of the system make constitutional changes. Derangements of the intestines affect the secretions of the mouth. Scrofula affects the salivary glands, influencing the mouth and generating acidity. All constitutional changes affect, and salivation perverts the secretions of the mouth. Mercury, he believed, had no direct action upon the teeth, only through the glands. Syphilis, in its secondary and tertiary

stages, as well as other diseases, affected the secretions of the mouth, causing the teeth to decay.

Dr. James Taylor believes that changes took place after the eruption of teeth through the gum. It was very necessary, in the discussion of this question, to determine what changes in the constitution effect changes in the mouth. Certain temperaments are predisposed to disease, as was instanced in cases of cholera. The tooth, its character, its germ even, in his opinion, depended upon the temperament and constitution. Teeth are differently organized. The best organization—sanguine constitutions usually—had the best, the most complete teeth; and such constitutions resist the action of the disease. Proper and rich nourishment, and good, pure air will remove or at least diminish the lymphatic temperament; the lymphatic-sanguineous may become sanguine-lymphatic. Certain materials in the system have a tendency to keep the teeth sound and nourish them. In persons of a scorbutic temperament, bronchially affected, or tending to consumption, the teeth seem to grow softer instead of harder. Such instances had been observed in his own experience, and he had observed, after having checked the tendencies of changed secretions, that the teeth grew harder; showing the improvement of the system. In tracing the character of teeth, he had been able to learn of the general health of patients, and had informed their attendant physicians of their improvement, which information had proved well founded and correct. Dr. Taylor referred, in conclusion, to the great importance of this question, and said he only knew enough of it to make him extremely desirous of learning more.

Dr. Taft was aware that teeth would decay while persons were ill, and after they had recovered. He had observed in his patients how their saliva had changed from alkaline to acid. Any reduction of the vital vigor will affect teeth, and dead ones decay more rapidly than living ones. Teeth decay in proportion to their vitality, to their reduction of resisting power. Mucous is naturally acid, but may be made more so. Where there is a disposition to inflammation of the mucous membrane, the mucous becomes more acid, and the teeth are more apt to decay. Where this disposition is, it also assists the decomposition of foreign substances about the teeth, influencing their decay. Regard should be paid to the question, whether the change in the saliva results from the blood or the salivary glands.

Dr. James Taylor believed the change in the saliva is owing particularly to the blood, from which this secretion is eliminated. A gland may be no more changed than the general system. The fluids that pass around the teeth are mucous secretions, no less than the saliva.

Dr. Spalding said, he had long been subject to bilious attacks, but his saliva never became acid until after his teeth had been injured by mercury. He would ask if certain medicines might not act directly upon the tissues of the system, independent of all actions upon the secretions.

Dr. Osmond remarked, that people in this quarter of the globe, were more liable to decay of teeth than elsewhere; and the reason was, in his opinion, that they had vitiated systems and a remarkable deficiency of phosphate of lime therein. This may be ascribed to the manner of

living here. It would be well to pay attention to this. Deficiency of phosphate of lime has a tendency to decay bones. In most American constitutions, muriatic acid is produced in too great a quantity to be consumed by the lungs.* Saleratus or alkalies affect the gastric juice; large quantities of fat, sugar, etc., produce a superabundance of lactic acid; phosphate of lime hardens the teeth, and physicians sometimes prescribe it to pregnant mothers, that their children's teeth might be firm and sound. Such facts as these, if examined carefully, might show what influence the constitution has upon the teeth, and lead to some positive knowledge upon the subject, that would be of incalculable advantage for the preservation of the teeth.

Dr. Branch believed that teeth decayed by chemical action, resulting necessarily from changes in the mouth. Our climate produced a high degree of nervous energy, and to this fact he attributed the rapid decay of teeth in America. He thought acidity of the mouth would influence the mucous membrane, instead of the mucous membrane causing acidity of the mouth. The mucous and saliva depend upon the manner in which the stomach manages its food. The Americans, as a people, are more sensitive to the action of deleterious substances. He had known physicians to treat dyspepsia as a nervous disease successfully, and had also known that disease to result from the teeth. He himself had had such a case. The decay of the teeth generally, he thought owing to an over degree of nervous energy, instanced often in women when eniente.

Dr. Osmond said, that in healthy natures, carbon is eliminated and consumed. In less healthy natures, a large amount of lactic acid exists, which acid affects the mucous membrane.

Dr. James Taylor remarked, that the causes of disease are of two kinds, the predisposing and exciting. Chemical agents that act upon the teeth, are induced by constitutional changes. In all acute inflammation we find an acid state of saliva. Mercury, in his opinion, hardly affected the dental organs, and when it did affect them, it was only through the secretions of the mouth. Years are required to remove the tendency to disease, in a certain part of the body; he did not think the teeth had as much power to resist disease as other parts of the body. In proportion, as we build up the vital power, we decrease the tendency to decay.

* Dr. Osmond requests us to state, "that owing to the blunder of the individual who reported the proceedings of the Mississippi Valley Association, he was made to say, in the course of a debate, 'On the causes of decay of the dental organs,' that 'In most American constitutions, *muriatic acid* is produced in too great a quantity, to be consumed by the lungs.' He trusts that those who are acquainted with him, consider that he is sufficiently '*posted*' in Physiology, to be incapable of stating such a gross error. The report should read, 'In most American constitutions *carbon is taken* in too great a quantity to be consumed by the lungs.' As to the '*muriatic acid*,' it is the acid of the gastric juice, according to our best Physiological authorities, combined with pepsin; it acts upon the nitrogenized substances, and also acts as a solvent of the phosphate of lime; consequently, when it is neutralized by alkalies, it loses this latter power; hence a deficiency of that salt, and a tendency to caries. This was discussed at length, but not reported."—*Ed. News Letter.*

Question No. 4.—What has been the course pursued, and the success in the treatment of alveolar abscess?

Dr. Bonsall generally removed the exciting cause in the treatment of alveolar abscess, and applied creosote to the part.

Dr. James Taylor said, that curing abscess without extracting the teeth, would have been considered unprofessional some years since; but now to remove the teeth for such a purpose would be deemed so. The first step was to clean out the dental foramen and arrest the formation of matter. A discharge of matter through a diseased tooth, is not an abscess, but may become so by stopping it. After operating upon the dental foramen, he applied creosote, chloride of zinc, alcohol or camphor, and cotton again and again, until the foramen was perfectly clean. For a test plug he used patent thread. Cleaning out the fang is the main object; afterward remove all foreign matter; make a vacuum and plug up firmly. He employed creosote as an antiseptic. When there was inflammation, generating a sac above the apex, he ran a fine instrument through the foramen, and let the pus escape; then used, in many instances, nitrate of silver, because it promoted healthy granulations. When the course of pus was tortuous, he ran a lance through the canal, making it straight and increasing its size; and in this way removed all the unhealthy matter. Abscesses cannot always be treated through the canals of the fangs.

Dr. Knowlton had noticed in his practice the formation of a kind of gas in the bone of a tooth, which gives more pain than pus. The filling which he had removed from teeth was extremely offensive. He did not know how to reach or remove this gas, but had never used chloride of lime. One tooth which he had filled, he had been compelled afterwards to remove.

Dr. Branch had never attempted to operate upon an alveolar abscess, where there was a tendency to neuralgia. When he treated ulcerated fangs, he did it by external management; by external openings, he prevented the secretion of all morbid matter. In feeble patients, with delicate constitutions, he never endeavored to preserve dead fangs; as he believed it necessary in such cases to remove all irritating causes.

Dr. Spalding said, that for test plugs he had employed silk floss and thread, and that he now used a wisp of cotton, not inserting it too tightly in the cavity, and changing it once in every twenty-four hours. By examining the cotton, by its color, odor, and general appearance, he determined when the fang was ready for filling. Scarcely a day passed on which he did not treat a case of alveolar abscess. He himself had had an ulcerated tooth for ten years, and from the beginning grew constantly worse, and yet never had been troubled by a neuralgic pang. A lower molar had troubled him, and he had tried every way to destroy the nerve, but ineffectually; and recently he had experienced a neuralgic pain either above the right or left eye.

Although the question was not disposed of, it had been determined the Convention should adjourn this morning, and the discussion close at the hour of noon, and as it was considerably after that time when Dr. Spalding took his seat, all further consideration of No. 4, was indefinitely postponed.

EXTRACTS FROM THE DENTAL PERIODICALS.

BY J. R. M'C.

Dental Obturator for December.—This number opens with a continuation of “Chips,” in which the profession in large cities, especially New York, receive some pretty hard knocks for hasty, and therefore imperfect operations, and “placarded shop-window catch trade” way of soliciting business. He reasons, that the pressure upon the time of the operator, in connection with a feeling of covetousness, which often grows upon him, induces him to hurry his work, by which course “the patient is deceived and swindled out of his money and a false security given, by which, in all probability, the tooth will be lost.” This he censures severely, and the operator is called upon “not to leave that tooth until he has done all he can for its preservation.”

In an article on “*Sensibility of Dentine, by Jas. S. Knapp, D. D. S.*” we find the following in reference to the use of arsenic :

“If there be a point, (and I doubt it,) in quantity and in time, in which arsenious acid can be safely used for destroying sensibility of dentine, without being so absorbed as eventually to reach through the intervening layer or layers of bone, and taking the life of the pulp, it is, in my humble opinion, so uncertain whether the mark be hit, that I should prefer to avoid the use of such deadly weapons where I did not intend to kill.”

This agent he farther condemns, and suggests the employment of “simple astringents,” as follows :

“If we use discriminately some simple astringents, as tanin and benzoin, some little good may result, but certainly no harm ; and if chloroform can be retained in the tooth for one minute, the pain of excavating will be greatly diminished, as any one knows who has tried it ; but if, from position or case, nothing can be used to allay the sensitiveness, let not the hands of the operator be stayed from performing his duty to himself and to his patient, for he will not be situated like Aaron of old, with a friend on each side, and an army to fight his battles for him. But by patient reason and a courageous heart, must he encourage his uninformed, timid, suffering patient, who will either yield to the demands of the case, to bear all the pain necessary to a thorough cleansing and shaping of the sensitive member, or else would be named under the head of that class who, as a physician truly remarked, *were not worth curing*.”

“In a practice of more than eleven years, I am happy to state that I have not had more than a dozen who came under this head, and who were not willing, for their own personal interest, to bear all pain necessary to save their teeth, and they, doubtless, afterwards applied to the

men who used the infallible remedy, in order to perform 'Painless Dental Surgery.' "

The chapter on "WANTS," is something of a new feature, particularly *striking* in some respects, but we think a rather questionable mode of *gunnery*.

New York Dental Recorder.—After an interval of several months, we have received a number of this journal, (the last of Vol. 10,) which announces its discontinuance.

The publishers say: "With an ample subscription list, we find our *collections* inadequate to meet the expenses of the magazine," etc. This is to be regretted, and the fact is an unpleasant reflection upon the dental profession.

A *new feature* in dentistry, is a "New Years' Address," in the shape of a *pome*, a couple of stanzas of which we annex as a sample of its quality. We must add, as faithful historians, that to California belongs the honor of this painful effusion:

Good reader, you perhaps will ask
 Why I address you so;
 The question being appropriate,
 The reason I will show.
 I'm a DENTIST by profession,
 And inquire when you will
 Of any one who knows me,
 And they'll tell you of my skill.

From felspar, and from native quartz,
 I make all my own stock;
 Examine my work, you'll find each tooth
 I make—like solid rock;
 Full many a year, both night and day,
 I toil'd to get a name,
 And now I've no superior,
 And the foremost rank I claim.

More astonishing still, from California, is the following, which we clip from a newspaper:

"BORN WITH TEETH.—A woman in the western portion of San Francisco gave birth to a child which had twelve teeth! Each one of them could be distinctly seen, and the little "chap" was very much inclined to bite. We have been frequently called upon to notice the remarkable productions of California, and we are anxious to know what she will produce next.

Comparative Anatomy of the Teeth.—We notice that Prof. Chapman, of the Ohio College of Dental Surgery, has in course of preparation a work on the above subject. Such a book has been long needed, and we are assured it is in proper hands.

SELECTIONS AND ABSTRACTS

FROM MEDICAL AND OTHER JOURNALS.

BY S. S. W.

ORGANIC HARMONIES.

London Lancet.

Dr. Knox, in an able article on this subject, opposes the view advanced by Cuvier, of the *invariable* anatomical co-relations of the different parts of the animal structure. The following extracts will give a general idea of his views :

“ Whilst revising my inquiries into the Natural History of Man, with reference more especially to his physical structure, my attention was naturally directed to the relation of species to genus or natural family, and of natural families to each other. According to the view I had always adopted, it was impossible for me to view man apart from the rest of the animal creation, nor could I see in his seeming isolation from all other races of animals, anything more remarkable than the obvious and universally admitted fact of the isolation of all species of animals from each other.

“ The various methods of classification in zoology, were thus again brought before me ; the method of the mere naturalist, derived mainly, if not solely, from a consideration of the external characters of the adult individual ; the anatomical method, which received its full development at the hands of the illustrious Cuvier, he who first invented and discovered *true descriptive comparative anatomy* ; who applied it to the living animal kingdom, and who, following up his great discovery, based on the value of comparative anatomical details, applied the method to the fossil remains of former worlds, restored the skeletons of animals which had long ceased to live, and in the brief space of his short and active life, extended the boundaries of human knowledge, and of human mental vision, beyond what the united efforts of all inquirers had done since the commencement of human history.

“ The Memoirs I have lately published in the ‘ Zoological Journal’ of Mr. Newman, (Van Voorst,) and in ‘ The Lancet,’ sufficiently prove the value I attach to the external characters and to the dentition in the determination of species, in the tracing their affiliations to natural families, their production and extinction in time and space.

“ Thus, I may venture to say, that it has always seemed to me that, as regards zoological classification, the anatomical method, though the best basis, and forming indeed the only basis, which in zoology cannot be dispensed with without relapsing into the ludicrous errors of antiquity, nevertheless requires to be associated with the method by external characters ; these being, in fact, the only ones presented by Nature to man—the characters by which Nature has most clearly and distinctly characterized species and genus—characters which seem

quite as unchangeable as the anatomical, fixed and durable as the globe itself.

“Secondly, it was always my belief that Cuvier himself had no faith in his deductions as *laws*, and that, indeed, he constantly appealed to the empirical method of direct observation; that, in point of fact, the teeth predicted nothing certain as to the stomach and limbs, and *vice versa*.

“Preceding his great discovery of the essential differences between the living and extinct animal worlds, Cuvier’s genius and good fortune had placed in his hands grand instruments of research, without which there could be no demonstration of the truth. He was already a profound descriptive anatomist, versed in all the forms of existing animal life, and the anatomical co-relations which these forms present. These he applied physiologically and zoologically. The teeth of the tiger and of the pure carnivora coincided with certain other structures, anatomical and physiological, and these co-relations he fancied not only to be invariable but necessary. How he could think so, admitting to the full their application to the pure carnivora, is explicable only, as I think, by what I have said in respect of the period, the position and the man.

“Beyond the natural family formed by the carnivora, there is not a single anatomical co-relation which remains correct; or, in other words, *a law applicable to the living and extinct zoologies, by which and from which may be reconstructed out of fragments the animal itself, deduced, à priori, from the fragment, and without any further appeal to the anatomy and natural history of the animal itself*—that is, *irrespective of direct or empirical observation*. If the teeth of *necessity* give rise to a certain form of stomach, how is it with the human structure?—what co-relation exists there? How is it with the toothed cetacea? “Give me the teeth,” said Cuvier, “and I will describe the stomach, the feet, the skeleton.” Now, given the teeth of the dolphin, porpoise, seal, bear, pig, how stand the co-relative structures?—what has become of them? Given the paddle-shaped limbs of the fossil, and extinct saurian *alone*, no anatomist that ever lived, could possibly have conjectured the truth of a fragment of the rest.

“Pursuing the same train of observation as regards the strictly herbivorous, it was easy to see that the tooth of a truly herbivorous animal is unfitted for the tearing of flesh or breaking of bones; but nothing in anatomy warrants the assertion that the teeth of ruminants cannot possibly coincide with any other than a quadruple stomach and a cloven hoof, or *vice versa*. No anatomical co-relations exist by which, *à priori*, might be deduced from the teeth the form of the human stomach, or from the stomach the character of the human teeth; from the teeth and whalebone the internal structures of the cetacea, or from these latter the character of the former.

“Valuable, most valuable, as are the facts drawn from the anatomy of the skeleton and teeth, I have found them but too often at fault, when an attempt was made to apply them to animals still living, but unknown to the anatomist; and especially and remarkably to those species and genera of the vertebrata, which once lived on the surface of the earth, but which are now no more. In a word, the conclusions

I had arrived at and publicly recorded* many years ago, and with which, as I understood, most continental anatomists had long ago coincided, were—

“1. That the co-relation of anatomical forms employed as a paleontological method, and deduced as they must necessarily be, for the most part, from a consideration of the skeleton generally, though occasionally combined with the presence of the teeth, could in no way be depended on; admitting, at the same time, that such co-relations exist, and that the method might be perfected by a discovery of Nature’s scheme or plan.

“2. That the plan or scheme was not to be discovered in the doctrine of animal mechanics, using the term to mean the application of the doctrines of a final cause.

“3. That when the illustrious and immortal Cuvier, to whom intellectual man owes so much, imagined that he had discovered a paleontological method of universal application, in the structure of the skeleton and the character of the teeth,—a method applicable to the unknown and hitherto unexamined, living, and to the extinct and forever unexaminable, that is, the animals whose existence can only be proved by their fossil remains,—he misled himself and the great world at the same time, on three essential points—namely, first, that the obvious co-relations of forms in certain well-marked characteristic animals, as the carnivora and ruminants, which common sense rendered obvious, were universally applicable to Nature’s grand zoological world: and, secondly, that the co-relation amounted to a law, a zoological problem as readily determinable as a mathematical one: “a tooth or nail-bone being given, to determine from it, or by it, the anatomy, physiology, species, genus of the animal to which it belonged; its position in time and space; living or extinct.”

“The third delusion was that there exists some invariable relation, amounting to something like cause and effect, whereby one structure of necessity produces another, and all its consequences; and as a sequel and a necessary result, the anatomical method becomes entitled to the character of a science based on *à priori* reasoning, and not as the mere result of direct intuitive, empirical observation.

“But recollecting that the discovery of the fossil world was not predicted, not foreseen by anatomists or zoologists, it were well to remain contented with the great claim of having discovered, through Cuvier, a new science, a new chronology of the earth, a new mode of demonstrating that the organic world, past and present, presents as yet no forms which reason cannot comprehend; that as yet, all seem to be formed upon one great plan or scheme, of which the basis is unity. These, be it remembered, are vast discoveries in the direction of truth. Aristotle, it is true, had, about 3,000 years ago, arrived nearly at the truth, but the world would not, or could not, follow him. Truth, in science, had, properly speaking, no existence on the earth for thousands of years; in many civilized countries, even now, it scarcely has a footing.”

* See Great Artists and Great Anatomists. London: Van Voorst.

The following extracts are from an article by F. D. Lente, M. D., New York, on

“*The Remote Effects of Anæsthesia on the System.*—The great advantages of anæsthesia in medicine and surgery have now been established on too firm a basis to be easily shaken. For a time, like all great discoveries and inventions, it had its opponents to contend against, but they were soon borne down by the overwhelming evidence of eminent men throughout the world in its favor. Therefore, we may, at the present time, with less hesitation inquire, whether there may not be other dangers attending its use than that of immediate death, and suggest the propriety of watching patients who have been subjected to its action, for some time after, and noting any apparent ill effect. It is time that so important a subject should be investigated, and that the great experience of the profession should be known. If instances of the remote ill effects of anæsthetics occur so frequently, as we would infer from Dr. Clark’s* experience, and that of his friends, their use certainly ought to be more circumscribed than it is. It is very probable that those who advocate the almost indiscriminate use of anæsthesia—and there are not a few in the profession who appear to do so, and who practically ignore all danger—will sneer at the record of cases tending to produce any distrust of its safety and to restrict its application. It will be very easy for them to force the conclusion on their own mind, that the alleged bad consequences were due to other agencies than anæsthesia. On the other hand, there will be some danger on the part of those who have never been strong advocates of its use, of ascribing to its influence effects which might be attributable to other causes. Still, we think it important that cases in which anæsthetics appear to have been productive of serious ill consequences, should be brought to the notice of the profession, that some idea may be formed of the relative frequency of these accidents. With this view we beg to present, in connection with Dr. Clark’s record, the three following cases which have occurred within the last five years in our own practice :

“CASE 1.—In the summer of 1853, assisted by Dr. Leroy, formerly resident surgeon of the New York Hospital, I operated on a boy in apparent good health, eight years old, for contraction of the index and middle fingers of the right hand, the result of the cicatrization of a burn some years previously. As the case required a careful and somewhat protracted dissection of flaps into the palm of the hand, the patient was subjected to the influence of sulphuric ether, administered by Dr. Leroy on a sponge in the usual way. Nothing remarkable occurred, either during the administration of the anæsthetic or during the operation, and but a moderate quantity of blood was lost. The patient soon recovered consciousness, but in a short time he became very feeble, and soon commenced vomiting, although no food had been allowed for seven hours previous to the operation. The pulse commenced sinking rapidly, consciousness being unimpaired. Frictions were at once resorted to and stimulants attempted, but were immediately rejected by the stomach. The prostration soon became extreme, and dissolu-

* Given in last number of News Letter.

tion appeared imminent, both to Dr. Leroy and myself. Brandy was freely administered by enema and retained, and in the course of an hour or two reaction slowly commenced; but it was not until several hours had elapsed, that it was considered safe to dress the wounds, so slowly did the patient recover from the prostration.

“CASE 2.—This patient, a young man in ordinary health, not robust, aged about twenty-five, of nervous temperament, wished to have a large number of decayed teeth, and fangs of teeth, removed. At the request of the dentist, who was to operate, I administered sulphuric ether, patient sitting upright in the operating chair, a necessary position during such an operation; the patient had previously been considerably frightened, both at the idea of the operation and of the anæsthetic, although unwilling to undergo the suffering without it; he had accordingly primed himself pretty thoroughly with brandy, but was in no wise intoxicated. Nothing unusual occurred during the administration of the ether, and anæsthesia was induced without difficulty. Six stumps were rapidly and skillfully extracted—say within three minutes, perhaps within two. The patient then showed some signs of returning consciousness, and more ether was administered; anæsthesia was soon re-established, and six more teeth were with equal rapidity extracted. The anæsthesia was very complete, but there was no unusual difficulty in recovering the patient, and he was soon able to walk home. A week or two after this, he applied to me, complaining of debility, pain about the head and dizziness, a disposition to faint and fall down, and various nervous symptoms, which, he said, had troubled him ever since the operation. He was very low-spirited and fearful of some serious disease. He, of course, attributed all this to the ether. I endeavored to divert his mind from this idea, and prescribed change of air and tonics. He went away, but returned within a few weeks not much better. Subsequently he improved, and after a couple of months longer was much better, though still rather nervous and desponding. He afterwards went to the city to reside, and since that time I have not seen him.

“CASE 3.—W. M., a young gentleman, about thirty years old, in robust health, of temperate habits, was attacked with ulceration of the soft parts of the mouth from pressure of a crowded wisdom tooth. The pain was very severe, causing loss of rest and food. I advised the extraction of the tooth; but the dentist to whom he applied, merely cut away the overhanging edges of the ulcer. The inflammation increased and extended to such a degree, as to produce almost complete closure of the jaws, with inability to open them. It was absolutely necessary now that the tooth should be extracted, as the only means of arresting the inflammation, and it was therefore proposed to etherize the patient in order to allow the jaws to be forced open sufficiently to admit the introduction of a forceps. Sulphuric ether was accordingly administered. The patient came rapidly under its influence, scarcely requiring an ounce and a half, though not entirely unconscious. The jaw was forced open with but little difficulty, and the tooth rapidly extracted by the dentist in attendance. The patient soon recovered, but seemed a little nervous and considerably excited, but expressed himself as entirely relieved from the severe pain he had been suffering. He was advised to go home and lie down for a few

hours. He walked home, about a quarter of a mile or more, and followed my advice; but in the afternoon complained that the ether was still in his lungs, and sought to get rid of it by riding and walking. In the evening he was at the house of a friend in gay society, and seemed to enjoy himself, still, however, occasionally complaining of some difficulty about his chest, when, all at once, he fell from his chair, exhibited great restlessness, tossing about of the arms and legs, with great difficulty of breathing, but no loss of consciousness, declaring all the time that he could not get his breath for the ether, and that he should die; his hands and feet were said to be cold. Before I reached him, various restoratives had been applied, and he had been almost drowned by the assiduous application of hot water. It was evident at once that it was a case of violent hysterics, unusually well marked in a male. Patient at times would laugh and joke, then express fears of impending suffocation with jactitation, declaring that, as vapor of ether was heavier than air, he ought to be held up and allow it to run out of his lungs. As he was rather weighty to allow of convenient inversion, his request was not granted. Large doses of morphine were administered, but had no effect; it was only after several hours that he could be quieted. The next day he was able to be up, but complained of weakness and a disposition to faint on the slightest attempt to walk; also of some difficulty of breathing. This continued for some days, but finally disappeared, and within ten days he was apparently in his usual condition. Patient has never previously exhibited any tendency to hysteria.—*New York Journal of Medicine.*

Chloroform.—Dr. C. Flemming (Braithwaite's Retrospect) gives the following opinion as to the propriety of its use in minor operations:

"Indeed, I apprehend we must admit, that the cases in which the effects of chloroform, as an anæsthetic agent, have been the least successful, are those where the bodily health has appeared to be perfect, and where the local disease has been limited and superficial, as if giving a hint to the surgeon, that under such circumstances, the system at large should be left unmolested."

On the Absorption of the Roots of Sound Permanent Teeth, by Dr. Heider.—"The cause of the absorption of the roots of the deciduous teeth at the period of the second dentition, has been the subject of many observations and numerous hypotheses. All that we as yet know, with certainty, in respect to it is, that there exists an intimate connection between the development of the permanent teeth and the absorption of the roots of the deciduous teeth. In what, however, this connection actually consists, is not yet clearly explained. This much, however, is certain, that at the period of the development of the permanent teeth, their enveloping sacculi becomes more vascular, and come in immediate contact with the roots of the deciduous teeth, and constantly play a very important part in the absorption of the latter—nay, in all probability, are the sole agents in effecting it. A renewed examination of the surface of the deciduous teeth at which absorption takes place, shows that this is always on the side that is

inclined towards the advancing tooth; and that when not merely the compensatory tooth, but its neighbor, comes in contact with the same deciduous tooth, two perfectly distinct surfaces of the absorption, corresponding to the points of contact of the new teeth, are presented by the former, showing that both the advancing teeth in contact with it, had contributed to the absorption of its root. Another fact places the correctness of this explanation of the means by which the absorption of the deciduous tooth is effected, beyond a doubt. When the permanent tooth is not developed, or its development takes place in a wrong situation, the corresponding deciduous tooth is not shed, but keeps its place in the jaw in after life. This is often found to be the case with respect to what are known popularly as the eye teeth. The deciduous teeth are consequently shed, one after the other, just in the order in which, by the development of the corresponding permanent teeth, their roots are absorbed by the latter.

“The foregoing facts have been known to dentists for some time, but much less familiar are they with the fact, that the root of a sound permanent tooth may be absorbed in the same manner as the the root of one of the deciduous teeth, by the abnormal development beneath it of another permanent tooth.

“In my collection, I have six permanent teeth, the roots of which have been in this manner entirely or partly absorbed. Five were extracted by myself, and the persons from whose mouths they were taken, remained under my observation; for one I am indebted to my esteemed colleague, N. Terzer. These teeth are divisible into two groups: the one, where the posterior root of the second inferior molar tooth was absorbed in consequence of the expansion of the crown of the adjoining wisdom tooth; the other, in which the root of the outer incisor was absorbed by the intruding crown of the so-called eye tooth. In all, the surfaces at which absorption has taken place present precisely the same appearance as those of the deciduous teeth, when these have been cast at the usual period. Especially is this observable in the second inferior molar teeth. In one, we have the commencement of the absorption process, in a concave semi-circular depression on that part of the root which was in contact with one of the projections on the obliquely situated crown of the adjoining wisdom tooth; in another case, one-half, and in a third, the entire root is removed by the development beneath it of the dens sapientia. In all these cases, the extraction of the affected tooth was rendered necessary by the intense pain suffered by the patients, connected in one with inflammation of the periosteum of the root, and in the two others with exposure of the nerve.

“Equally characteristic is the surface at which absorption had occurred in the incisors. In one there is an oval depression on the posterior surface of the root, near the neck; and in the other two the root is entirely removed, and one of them exhibits a cavity corresponding to the point of the encroaching eye tooth. The removal of the affected tooth, which in one case was already very loose, became necessary, in order to give room for the development of the approaching eye tooth.

“These observations show, conclusively, that the process by which, at the period of the second dentition, the roots of the deciduous teeth

are removed, is neither specific nor restricted to the first set of teeth, but that it may be called into action in the case of the permanent teeth, and cause the removal of their roots also, and that it is dependent partly upon the structure of the dental tissue, and partly upon the increased vascularity of the outer portion of the sacculi of the approaching teeth. The process has great similarity to that which occasions the absorption of the bones in consequence of the development of tumors in contact with them, and the two are probably identical.”—*Austrian J. of Pract. Med.*—*Am. Jour. Med. Science.*

Regeneration of Teeth.—We learn from an article on the “Life and Writings of Spallanzani,” (Philadelphia Medical and Surgical Journal,) the following curious facts which had been observed by him: “That toads recover their paws, and salamanders not only their paws but likewise the tail and jaw-bones, after repeated amputations; and also that the land snail has the head reproduced with the regeneration of the eyes, the mouth, the tongue and the *teeth*. Prisciani has very justly observed that the *brain* of the land snail is not situated in the part which was amputated.”

Defective Dentition.—In a report of cases of stomatitis, by Dr. Hutchinson, (Half-Yearly Abstract,) it is stated that a short and florid boy, aged five, who had been well fed and cared for, with the exception of “two molars on the left side, had never cut any teeth in his upper jaw; the teeth in the lower jaw were very small and imperfectly formed ones.”

On Ovarian Tumors.—The following are interesting extracts from an article on the above subject, by Dr. T. M. Tweed, in the Atlanta Medical and Surgical Journal:

“Cysts containing a fatty, or sebaceous matter, intermingled with hair and teeth and bones, have been frequently met with, either in the substance of one of the ovaria, or adhering to them by a narrow neck. These hairs differ greatly in length and color; some are only a few lines in length, some several inches, while others have been seen which measured two feet three inches. Dr. Sinnet, of Ohio, reported a case to a Committee on Ovarian Diseases of the State Medical Society, in which he opened an ovarian cyst, finding hair eighteen inches long, resembling that of the lady, and, also, in the same cyst he found five teeth in a portion of bone resembling the superior maxillary.

“In almost all cases where teeth have been found, they have been implanted into the fragments of bony or cartilaginous matter, and have resembled the rudiments of maxillary bones and alveola. Meckle thinks that these accidental teeth are produced like ordinary teeth in capsules filled with a gelatinous fluid.” * * * *

“We shall next give a brief description of the *solid substances* contained in ovarian tumors. Fat, hair, bone and teeth, as we are already

informed, are the solid substances most usually met with. Formerly these productions were always attributed to *conception*, but subsequent observations have distinctly proved that the generative faculties have nothing to do with their formation. And the facts produced in proof of this statement arise, 1st, From the knowledge that these productions have been observed in virgins, and those too young for copulation. 2d, They have been discovered in other parts of the body, unconnected with the uterus or its appendages. And 3d, they have been found in the male sex.—*Vide. Baillie's Morbid Anatomy.*

“1. Dr. Baillie has furnished us proof of the first fact, and has related a case where fat and hair were found in the ovaria of a little girl thirteen years of age. A little girl about thirteen years old was brought into the dissecting room, and the blood vessels were injected. The right ovary was swelled to a size larger than a hen's egg. It was filled with a peculiar sort of fat and hair; at one place there were two long excrescences from the capsule containing this fat, which a good deal resembled teeth. The uterus was as small as at birth, and when opened, exhibited the common appearances. The girl had an entire hymen and the pubis was without hair. Such cases have been considered as impregnations, but in this case, the state of the uterus, the age and the hymen rendered such a supposition groundless.

“2. These substances are found in tumors altogether unconnected with the generative organs. We have already referred to a case where the cyst contained in its walls a body resembling an abortive foetus, which was entirely unconnected with the ovaries, and was situated *under the peritoneum*, and lying on the muscular tissue of the posterior walls of the abdomen. In that case there were two large portions of bone, regularly set with teeth, corresponding to and representing two portions of the lower jaw, and other large bones were seen. The cyst which contained these bodies, and from which they grew, was of enormous size, and contained large quantities of fat mixed with hair. The disease was of twenty-five years' standing. The uterus and ovaries were healthy and unconnected with the tumor.

“Tumors containing these substances are frequently found in other cavities besides the abdomen. Dr. Gordon, of the London Hospital, has met with a tumor in the anterior mediastinum, containing an osseous structure resembling a portion of the superior maxillary bone, some hair and teeth. And Sir B. Brodie has found some well-formed teeth in the bladder.

3. “These formations have, also, been found in animals, and in the male sex. Professor Coleman has described a tumor found in the abdomen of a gelding, in which two molar teeth of the horse, possessing the regular arrangement of bony matter and enamel, were attached; also, an incisor attached to a portion of a bone resembling the jaw, and a quantity of hair and fat in a separate cyst.

“Dr. F. H. Ramsbotham, also, states in his lectures, that Ruysch possessed a tumor in his collection, which consisted of teeth and hair, that had been taken after death from a cyst found in the coats of a man's stomach; besides a jaw with well-formed teeth which had been taken from the bladder.

“Duvernay saw a tumor extirpated from the scrotum, containing fleshy matter and bones.

“Dupuytren related to the Medical Society of Paris the history of a tumor found in the abdomen of a boy, containing a mass of hair, and a fœtus nearly ossified.

“And in the first volume of the *Med. Chir. Transactions*, page 236, is a description, by Mr. George W. Young, of a fœtus distinctly recognized in a cyst, in the abdomen of a boy (John Hair), about a year and a half old.

“These cases are quite sufficient to prove that such productions are not the result of the procreative function—that they are not extra-uterine conceptions; but, more probably, that they are either the production of the cyst itself, or of the confusion of two separate ova at the time of impregnation. No doubt the latter supposition may account for some of these anomalous products; but we think sufficient stress has not been laid on the secreting powers of the cyst itself. For instance: we have already seen that it is no uncommon thing for a cyst to secrete bone; we have quoted instances where the sac itself has been converted into bone; and we have seen bone discharged from an ovarian tumor, during life. Besides, hair, also, can be produced by the cyst itself. In the museum of St. Bartholomew’s Hospital, there is an ovarian sac, the inner surface of which has taken on a peculiar action, and has produced a membrane like the scalp, which is covered with hairs, they having a distinct bulb, and growing in the same manner as on the external surface of the body. Dr. Carswell, also, gives a beautiful drawing of an ovarian cyst, from a portion of which grew a considerable number of long hairs; some hairs were detached, and had formed themselves into balls of various sizes. No hairs grew from any other portion of the cyst, and they possessed bulbs. We thus find, that the sac contains the power, not only of producing hair, similar, in every respect, to the natural hair of the body, but of bone itself, which becomes detached like the hair, and is found in variously shaped masses, in the cavity of the cyst.

“Dr. Ashwell supposes that these products have their origin from disappointed sexual appetite; the power of production being present in the female, but the ovum not receiving the vivifying stimulus of the male semen, an imperfect development is the result. But if we, for one moment, consider the foregoing cases, and reflect that they are found in all parts of the body, and in parts entirely unconnected with the generative system, and even in the male sex, this supposition of Dr. Ashwell must be erroneous.” * * * *

“There is great tendency in these tumors to produce ulceration in neighboring organs. The colon, throughout its extent, is subject to its ravages: many cases are recorded to illustrate this fact. The bladder has been perforated by the pressure of these tumors. Dr. O. Heming relates a case, in the translation of M. Boivin’s and Duge’s work, where “the bladder was opened by ulceration, and for a long time allowed hair to pass with the urine; at last a body was extracted from the bladder, as large as a hen’s egg, presenting at one of the extremities a shred of skin containing hairs, and a bone in which was partially fixed a kind of tooth resembling a small molar. The communication of the cyst with the bladder was ascertained by the finger passed into the urethra. The person is said to have recovered.”

Caustic Formula.—Extract from a lecture by Langston Parker, (Half-Yearly Abstract :)

“M. Canquoin, in his work, gives four formulæ for the preparation of the chloride of zinc paste. 1. Equal parts by weight of zinc and flour. 2. Zinc one part, flour two parts. 3. Zinc one part, flour three parts. 4. Zinc one part, muriate of antimony one part, flour one part and a half. Water from twenty to thirty drops to the ounce for each of these preparations. The first preparation, applied four lines in thickness for forty-eight hours, destroys the parts to the depth of an inch and a half. The same preparation three lines thick, applied for the same period, acts to the depth of about an inch only.

“The pastes Nos. 2 and 3 are to be applied in carcinomatous ulcerations, which are not deep, but spread over a greater or less extent of surface. No. 3, on account of the greater dilution of the chloride of zinc, acts slowly and with a less amount of pain. No. 4 is combined with the chloride of antimony; this preparation, when well made, has the consistence of soft wax, and is particularly suited to growths which are uneven on the surface, to the inequalities of which it is easily moulded, and does not alter its form or run when applied. M. Velpeau speaks very highly of the chloride of zinc as an application to cancerous ulcers and growths. It is a preparation easily manipulated; it possesses no action on the epidermis or on mucous membranes covered with epithelium; it may be moulded with the hand to any shape, form, or thickness; it does not fuse or run, its action being strictly limited to the surface to which it is applied. Its action again is expended on the parts which it touches; unlike the arsenical pastes, there is nothing to fear from absorption, its action being strictly limited to the local effects to which it gives rise.”

—
Preparation of Caustic with Gutta Percha.—M. Richard has recently brought this before the Paris Society of Surgery: Gutta percha in powder is intimately mixed with pulverized caustic in proportions according to the strength required, as, e. g., two parts of chloride of zinc to one of gutta percha. The mixture is to be gently heated in a tube or porcelain capsule, over a spirit lamp. The gutta percha softens and becomes thoroughly impregnated with the caustic, so that on cooling a gutta percha port-caustic is formed. By its properties the gutta percha possesses the advantages of not altering the tissues; of preserving its consistence and flexibility; of insinuating itself by its suppleness into either natural or abnormal canals, however tortuous; of assuming any desired form under the fingers of the surgeon, and of allowing, by reason of the porosity of its molecules, the exudation and unimpeded action of the caustic it contains.”—*Braithwaite's Rel.*

—
Chlorate of Potash.—“The chlorate of potash possesses a peculiar influence over all inflammatory and ulcerative affections of the mouth. Although these disorders may be dissimilar as to cause, nature, degree, tissue affected, and common only in being situate in the mouth, they are all equally amenable to its control. For infants of one year, five grains is an ordinary dose; for an adult, a scruple or half a drachm. If the disease be acute, you may push it further by giving it more fre-

quently; if it be carried too far, it will excite purging, but if given in smaller doses, disappointment will only ensue. If properly administered, its virtues and potency are indubitable. * * *

"The two following *conclusions* appear to be warranted by the facts which have been adduced:—

"1. That chlorate of potash possesses a peculiar influence over all inflammatory affections of the mouth. (The syphilitic, perhaps, excepted.)

"2. That chlorate of potash possesses a peculiar influence over inflammations attended with phagedæna or sloughing, on whatever part of the body situated."—*J. Hutchinson, Braithwaite's Retrospect.*

Hemorrhagic Diathesis.—"A lamentable case is recorded in the "Transactions" of the Medico-Chirurgical Society of London, of a young man afflicted with a constitutional hemorrhagic disposition. He had been obliged to have a tooth extracted. Hemorrhage followed, which nothing could arrest, although it is clear to me that this might have been accomplished by the pressure of a child's finger. * * *

Wounds of the Tongue.—"When the tongue is wounded, for example, by a tooth accidentally driven into it, the closeness of the tissue renders the forceps useless. You must transfix the bleeding orifice of the vessel with the tenaculum, and tie in a small portion of the surrounding texture.—*Dr. Knox, Braithwaite's Retrospect.*

Perchloride of Iron.—"Dr. Dowler reported in the New Orleans *Medical and Surgical Journal* for September, a case of a troublesome and alarming hemorrhage following the extraction of a tooth. After trying various remedies without success, he saturated some lint with the perchloride of iron and placed it in the socket, when the bleeding ceased.—*College Journal.*

Vascular Erectile Tumors.—"The perchloride of iron, kept constantly applied by means of a pledget of lint dipped into it, exercises a coagulating power over the blood of vascular tumors, sufficient to effect a cure if persevered in for some time.—*M. Leclerc.—Braithwaite's Retrospect.*

Dentistry in England.—"The dentists are proceeding very cautiously, and with great judgment, in their endeavors to raise the character of the profession to which they belong. They are about to hold another meeting for the election of officers and passing of by-laws. In the meantime, they have given an outline of their intentions by circulars forwarded to those who respectably pursue their calling. Therein it is declared that any chicanery or imposition shall disqualify persons so acting, from being members of the Association, and that in glaring cases, they will proceed against any one calling himself a dentist without a fitting qualification. If they are true to themselves, they can hardly fail to accomplish their laudable object, but the reformers should specially guard against any dissension. Let them adopt a forceps for their device, with the motto 'pull together.'"—*London Lancet.*

"Efforts are now making in London, for the establishment of a Dental College or Institute. The scientific dentists, as well as phy-

sicians and surgeons there, are in favor of the plan, and not a few of them are looking to this country for guidance in the matter. A member of the Royal College of Surgeons, in a letter published in the *London Lancet*, says, that when on a visit lately to the United States, his conviction was that dentistry, as an art, was much better understood and practised here than in that country, and recommends the Baltimore College of Dental Surgery as a model for the new English institution."—*Boston Med. and Surg. Jour.*

On the Ecraseur.—(This is an instrument invented by M. Chassaignac, one of the surgeons of the hospital Lariboisière, Paris, by means of which the soft tissues may be divided without effusion of blood.)

"*Description of the instrument.*—The *ecraseur* consists essentially, of an articulated metallic ligature or chain, and a mechanical contrivance, by means of which, it may be progressively tightened; and thus in principle resembles the ligature and double canula of Gooch, and the *serres-nœds* of Graefe and others. But while, at least in principle, it resembles these instruments, it differs from them altogether in form and construction. By the substitution of a chain ligature, possessing an amount of resistance greatly superior to that of every other form of ligature in use hitherto, it became possible to employ a proportionately increased constricting force; and this, in effect, is what M. Chassaignac has done, his *ecraseur* being simply an instrument capable of directly effecting the division of the tissues, by the gradual employment of a force superior to their resistance. The instrument, I have said, consists essentially of a chain and a constricting apparatus; it is the form of the latter which determines the form of the instrument; but as different contrivances may be employed for effecting the same object—the tightening of the chain—so the instrument has been made of different forms, according to the ingenuity and skill of different makers. * * * * *

"The action of the instrument, though slower than that of the knife, is much more rapid than that of the ligature, and its action is direct; not indirect like the ligature, which only divides tissues by the process of gangrene it induces. The *ecraseur* first condenses the tissues it acts on, and then divides them with extreme regularity. The wound does not appear at all bruised or torn. When it acts on an artery, it first divides the two internal coats, which are folded up in such a manner as to plug the vessel. The closure is assisted by the agglutination of the outer coats, before they are divided, and after separation has been effected, the closure is so perfect that the channel cannot be opened by blowing forcibly through it. Experiments have been made at the Veterinary School near Paris, and the carotids of sheep have been divided without loss of blood. There is nothing surprising in this, when we remember how seldom severe gun-shot, lacerated, or contused wounds bleed; that a limb may be torn off by machinery, and no blood be lost; and that *bites* are very rarely attended by hemorrhage. The lower animals have no occasion to apply a ligature upon the umbilical cord of their young. They simply bite it through, and the action of the *ecraseur* is much more like that of biting than of crushing.

“My personal experience of the use of this instrument in the living human body, amounts only to three operations I saw M. Chassaiguac perform—the removal of a portion of the tongue, a testicle, and a mammary tumor. In the first case, about a third of the tongue was removed, on account of supposed malignant disease. The man was not under the influence of chloroform, and the operation occupied twenty minutes. It appeared to be very painful, although we are informed that the pain is not in general complained of after the first tightening of the instrument benumbs the parts. There was some bleeding, which was explained by the dresser, who had continued to tighten the chain, having done so too fast, and by the patient having jerked his head at the conclusion of the operation, and separated the last shreds of the tongue suddenly. A quarter of an hour afterwards, I followed the man to the ward, and found him bleeding profusely. I could see a small artery jetting freely at the lower part of the wound. A Sister of Charity was supplying the man with lumps of ice to keep in his mouth; and she told me that, expecting what would happen, she had ice all ready by the time the man returned from the theatre. She said she had seen a great many of these operations on the tongue, perhaps fifty; that they occurred almost every week, and that there was troublesome bleeding in a large proportion, perhaps about half or rather more; but that ice always succeeded in stopping it.”—*Braithwaite's Retrospect*.

Trephining an Alveolus.—“Dr. Keep, sr., had been recently called upon by a gentleman in great suffering with one of his teeth, a front one, which, though not sound, was yet quite too good to be lost unnecessarily. Dr. Keep sought to alleviate the pain by rubbing *delphine* upon the gum, and succeeded in his purpose for a time. But at 9, P. M., of the same day, he was summoned to see the patient, and found him again in great distress. Though there was no swelling of the adjacent parts, and but little soreness about the tooth, it was clear to him that there was pus between it and the socket. Dr. K. proceeded to trephine, and with a drill reached the root near its extremity. In from three to five minutes after withdrawing the instrument, the patient began to feel relieved, and after an application of veratrine to the face, and of warm water to the feet, he slept through the night, and on the following day was well. Dr. K. recollected having, about fifteen years since, treated a tooth in the same way and with similar success. In reply to a question of Dr. Buck, Dr. Keep stated that in the case first related, no pus was seen to emerge after the operation; he presumed that it existed, but in very small quantity. He supposed the pain to be occasioned by the hydrostatic pressure of the fluid.”—*Boston Med. and Surg. Jour.*

Affection of the Tonsil.—Dr. Andrew Clark related the case of a gentleman who, whilst at breakfast three weeks since, was seized with a violent expiratory effort, attended by vomiting, consequent upon a particle of food having escaped into the trachea. He shortly afterwards expectorated a small body, having somewhat the appearance of a hydatid. A few days afterwards he brought up a similar substance. Some doubt existing as to the nature of the body, Dr. Clark was con-

sulted. The patient was a stout, healthy man, but rather thinner of late, on account of anxiety respecting the nature of his malady. The chest was healthy, and the general health good. On examining the throat carefully, he observed a small elongated body attached to one of the tonsils, which, on removal, proved to be one of the follicles of that gland, elongated, enlarged, and full of fluid. The substances formerly expectorated were of the same kind. The patient soon recovered."—*London Lancet*.

A new Metallic Alloy.—"Equal parts of iron, cobalt and nickel fused together, make a very hard alloy of dazzling whiteness, resembling silver. It is suitable for making knife blades, fine files and other such articles."—*Sci. Am.*

New Polishing Powder.—"Mix equal quantities in solution of oxalic acid and sulphate of iron, then dry the precipitate, calcine it, and use it in fine powder. It is superior to lixivated colcothar for polishing optical glasses, and fine metal work."—*Sci. Am.*

The practice of specialities in medicine is quite ancient, as will be seen by the following, from an article on Ancient Medicine, by Dr. W. T. Grant (*Peninsular Journal of Medicine*):

"Among the Egyptians, medicine was practiced as follows:—'One physician is confined to the study and management of one disease; there are, of course, a great number who practice this art; some attend to disorders of the eyes, others to those of the head; some take care of the teeth; others are conversant with all diseases of the bowels; whilst many attend to the cure of maladies which are less conspicuous.'"

New Anæsthetic—Amylene.—Dr. Snow administered the vapor of amylenes, on the 13th of December last, in four surgical operations at King's College. It caused an entire absence of pain in all the cases, although the inhalation was not carried so far as to induce complete coma, the patients appearing to be in a dreaming state during the greater part of the time that the operations were going on. There was a little mental excitement and muscular rigidity in the two men, but not more than frequently takes place under the influence of chloroform; and the recovery from the effects of the vapor was very prompt. Dr. Snow had previously given the amylenes in several operations on the teeth, performed in the same hospital by Mr. Samuel Cartwright, the dentist to the institution; and he informed us that he had not yet met with sickness in any case, although most of these latter patients had taken their dinners just before coming to have teeth extracted. Amylene is made by distilling fusel oil with chloride of zinc. Its composition is 10 atoms of carbon and 10 of hydrogen. It is only two-thirds as heavy as water, and it boils at 102 degrees Fahr. The vapor is much less pungent than that of chloroform, and therefore easier to breathe. This liquid was first described by Cahours, about fifteen years ago, but has apparently not attracted much notice. We are not aware that it was ever applied by inhalation till Dr. Snow turned his attention to it a few weeks ago, and he is not yet prepared

to say whether he will recommend it for general employment. The amylene he has used was made for him by Mr. Lloyd Bullock. It was administered in all the above cases by means of his usual chloroform inhaler.—*Med. Times and Gazette*, Dec. 20, 1856.

PATENT CLAIMS.—Artificial Teeth.—Afred A. Blandy, of Baltimore, Md. I claim constructing Artificial Teeth with a hole, *a*, passing vertically through them, for the reception of the molten metal; and with a neck, *b*, and projecting sides in the manner and for the purposes set forth.

Plates for Artificial Teeth.—A. A. Blandy, of Baltimore, Md. I claim moulding the plates of Artificial Teeth, in such manner as to obtain a perfect fit to the gums, and a correct articulation of the teeth upon casting, as set forth.

Plates for Teeth.—A. A. Blandy, of Baltimore, Md. Ante dated December 11, 1856. I claim casting the plates of Artificial Teeth of an alloy, substantially, as described, suitable for such a purpose from its chemical and physical properties, and that practically will not shrink or expand in solidifying.—*Scientific American*.

For Mounting of Artificial Teeth.—George E. Hayes, Buffalo, New York.—“My invention consists in a certain mode of applying the platina connexions by which the teeth are attached to the plate and retained in place, whereby I am enabled to represent all parts of the teeth and gums of the natural shape and proportion; and also, to afford to the work when finished, greater power of resisting any strain in the mastication of food, or other ordinary uses of the teeth, than is afforded by any of the modes of applying the connections generally used.”

Claim.—“Providing the teeth severally with a groove in the base, for the purpose of receiving a wire frame, or its equivalent, with a wire or wires projecting from the base on each side of the said groove, for the purpose of serving as connections with the plate and with the wire frame, thereby enabling the natural crown to be represented on both sides of the tooth, and dispensing with the ordinary backing. Also, the attachment of the teeth to a wire frame, when the said frame is employed in addition to a direct connection with the plate, and stayed to the plate by stays, to give additional stability and security to the teeth.”—*Journal Franklin Institute*.

Summary.—A negress in Petersburg, Va., now 101 years of age, has a new set of teeth just beginning to peep out from her gums.

Copper and tin will melt in a covered crucible in a common stove. It forms an alloy of great hardness.

Obituary.—Just as we put this form to press, we have been startled by a telegraphic communication announcing the decease of Dr. S. P. HULLIHEN, of Wheeling, Va., on March 27, 1857. The deceased was long and well known in the dental profession, and his loss will be deeply felt and deplored by a large circle of professional friends and acquaintances.

J. R. M'C.

THE DENTAL NEWS LETTER.

VOL. X.

PHILADELPHIA, JULY, 1857.

No. 4.

For the Dental News Letter.

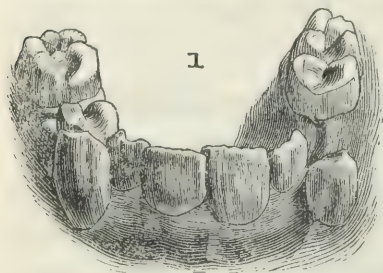
IRREGULARITY OF THE TEETH.

BY J. D. WHITE.

We referred in the last News Letter to the very frequent premature extraction of the deciduous canine teeth, and the consequent approximation of the permanent lateral incisors and the first bicuspid, also the projecting character of the permanent canines. In the treatment of this condition of things a great deal of consideration is necessary, an endless variety of cuts would scarcely suffice to fully illustrate it, as each case seems to require some new modification. We will name some of the reasons why extractions should not be resorted to. As a general rule, enlargement of the arch is indicated. Before resorting to the treatment, it is necessary to first study well the relation of the jaws to each other, or their *articulation*, to see if there be the same number of teeth in each, or whether they are equally advanced in their development, so as to be of equal size at maturity. As a general rule, when the first canines are prematurely extracted, the permanent laterals fall backwards and inwards, narrowing the arch, and sometimes they are grasped inside of the lower arch. Now, if the bicuspid or molars be extracted to let the permanent canines down in line, the laterals will remain in their place; and when the canines get into line, the arch in such cases will be so depressed or strained at this point, from canine to canine, as to give the superior jaw the shape of the letter V, whilst the lower jaw retains its natural ellipsoid. If the first inferior molars have been extracted, as is sometimes true when cases come to us, and the superior canines require room, we are in the habit of extracting a bicuspid on either side, or a first molar. When the first molars are very defective we prefer to extract them. It is a rule always to extract the unsound teeth, and if the canines do not take their places by the healing of the parts, they should be aided by springs, wedges, or ligatures. We have in many cases extracted the inferior first bicuspid, and drew back the inferior canines and incisors to make the lower arch equal with the upper, when the first superior bicuspid has been erroneously removed.

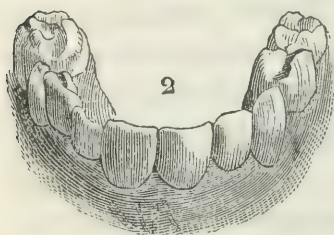
It frequently happens that the front superior incisors fall back of

the inferior when the teeth are closed, by the premature extraction of the first canines ; in such cases, all that is required is to bring the incisors forward, to let the canines in the arch. The following cuts will illustrate the successful treatment of a case of projecting superior canines. The first inferior molars had been extracted for some time, and, in consequence, the lower arch was shorter than the upper. The patient was a young lady, seventeen years of age. Cut No. 1 represents



the case after the extraction of the first bicuspid on the right side, and the second bicuspid on the left, on account of its having been decayed. We did not trust to time, as we do in many cases, especially younger ones, to correct the defect, but swedged a plate to

the roof of the mouth, and attached it to the first molars, as if it were to set teeth, and extended spiral springs from the first molars inside of the arch, to the canines, applying as much tractile force as the teeth would bear. This we continued for three



months, when we obtained the result exhibited by Cut No. 2. We do not deem it requisite to give a plate of the apparatus, as it is simple. The slight irregularity of the front incisors yielded to the application of ligatures in a few days.

For the Dental News Letter.

"A FREE PASSAGE FOR THE FLUIDS."

MESSRS. EDITORS DENTAL NEWS LETTER:—Having recently met with a very novel case in my practice, I have thought proper to communicate it to you, not that it really possesses merit ; but knowing there are those in our profession who have a great fondness for novelties, I will venture to give it.

I was recently called on to operate for a Mrs. D——, and on examining her mouth, I discovered what I at first supposed to be decay, but upon closer observation I found to be small round orifices between all the lower incisors, which she informed me had been drilled, while the teeth were perfectly sound, by a dentist, to allow, as he said, "*free passage for the fluids*," so as to prevent decay. I am inclined to think this is a *new preventive*, the utility of which will not strike many very forcibly.

I submit it to your disposal.
Lancaster, Ky.

JAMES W. GRANT, D. D. S.

For the Dental News Letter.

ON ARTICULATING,

With a plan by which an improvement may be effected in artificial dentures.

BY LOUIS JACK, D. D. S.

The term "articulating," is, in our art, generally applied to the act of adapting the plates to the mouth, arranging the wax guides to proper length, fullness and curves, necessary to restore the sunken feature, to aid the enunciation of sounds, and to secure the mastication of food: also, to the temporary arrangement of teeth upon the plates, to secure the same objects.

This process of articulating is of much importance in the preparation of artificial dentures, inasmuch as the harmony of the features, the correct articulations of the voice, and the prehension and mastication of food depend so much, indeed, entirely upon it. In correctly performing this operation, several circumstances are to be taken into account, which have a great influence, when properly considered, in guiding us to meet successfully these above stated ends; such as size of tongue, length of lips, depth of palatal surface, breadth of upper arch, relative breadth of upper and lower arch, form of anterior portion of alveolar ridge, tone of the muscles of cheek, etc. In the majority of cases all of these ends, or uses, previously mentioned, can be secured, by varieties of size, form, fullness, length, and thickness of teeth, breadth from out to out, curve of arch, etc., as none of the essentials to either are incompatible with the means required to fulfil the others. Thus, for instance, in the case of a large, highly muscular tongue, where a necessity exists for considerable room within the denture, to enable this organ of continual and astonishing motions, to have free play; the face will be found full, the alveolar arch bold, and the palate broad, thus allowing a good foundation for a wide and full dental arch, and a firm support in the strong accompanying cheek; enabling us to secure good mastication, without interfering with correct enunciation, or causing protrusion of the lips. Sharpness of feature, narrowness of palate, and acuteness of arch, are accompanied by the small tapering organ, thus permitting us to make a narrow denture, in order to secure a firm support; indeed, these varying circumstances indicate the necessity of adapting the teeth to the conformation of the surrounding parts, and guide us in the direction we should pursue.

Too little attention is paid by all of us to these considerations. Artificial teeth are generally very artificial things indeed,

instead of being so adapted to be, as it were, a part of the individual. But it is in the power of all dentists to improve much in the replacement of teeth; a better and more harmonious adaptation of dentures is certainly needed; something better is expected of the votaries of an art, claiming a position among the professions, than efforts which are recognized as out of place by the most casual glance, and would be coarsely criticized by the roughest tinker or blacksmith. Something better must be accomplished before we can be remunerated for our pains, either in a pecuniary sense, or with the satisfaction of having done well our duty.

I will now describe the method employed by many in articulating, and then in as concise a manner as I can, explain a new process, by which more consistent adaptations can be attained.

Previous to the plates being fitted to the mouth, a piece of white wax of sufficient size is selected to make the wax guide; this is warmed by passing it to and fro through the flame of a spirit lamp, until it is of such consistence as to be readily pressed into the desired form. It may also be heated by holding it before the fire upon a fork-like instrument, at such a distance as to warm the piece throughout, without occasioning the surface to melt. The wax is now shaped by the fingers to the desired height and thickness, bent, and pressed upon the plate, covering the alveolar ridge, and extending on the outside to the rim, or to the edge of the plate. White or bleached wax should be used in all cases for this purpose, as the yellow is entirely too soft; besides, it has not the neat and clean appearance of the bleached.

After the plates are fitted, these wax guides are fastened to them, by simply heating the metal until the wax begins to run around the edges, which will prevent any displacement that might be occasioned by the ingress of moisture between the guide and plate. The lower piece is now placed in the mouth, and trimmed away at such points as are decidedly too full; the height is regulated, and the upper surface made level. The upper piece is next introduced, and a proximal adaptation to the face made by cutting away any unnecessary fullness. The trimming is now conducted very carefully, taking off a little one place, and a little another, where required, from both upper and under, until the contour and expression of the lips and face is correct. This is a very nice, and somewhat tedious operation. The wax is now cut away on the inside to the thickness intended the teeth to have, to free the tongue from any unnecessary incumbrance. It is well at this stage of the operation to hand the patient a book, requesting them to read aloud, or to engage them in conversation; relieving them from the

chair, to remove any constraint. At first the expression of the lips and action of the muscles is unnatural, even when the adaptation of the pieces is very good, because of their foreign nature; in a few minutes, however, much of this will pass away, when we can better discover any faults, and more truly correct them. This is so important as to deserve further consideration than it has here incidentally received; I would urge attention to it, upon those desirous to produce good expression.

The width of the upper wax, at the back part, should be such that the inside of the grinding surface of the teeth will be slightly within a perpendicular to the centre of the ridge; if further out than this, the adhesion of the plate during mastication is less secure, if further in, the tongue may be cramped in its action.

The centre line is now marked with the point of any suitable instrument, the commissure of the lips is drawn back, and two lines made, crossing each other at the back part of the wax, on both sides of the case; by means of these lines the two pieces are accurately adjusted to each other, during the process of making the articulators, in the same position they held to each other while in the mouth. The manner used to make these is so simple as not to require description.

I have now to bring to notice a method by which the form, arrangement, and graceful irregularities of the natural teeth, may be very accurately produced in the artificial structure. All the additional arrangements that will now be required, are several sets of natural incisors and canines, and two sets of molars and bicuspid; these are prepared by cutting their roots to the form represented by the marginal cut. They should then be digested in dilute caustic potash, to remove all traces of the pulp and periosteum. Each set should be now put away by itself, in a bottle containing alcohol, for future use.



After the articulation is so far completed as has been above described, a set of the natural teeth is selected, of the form and size appropriate to the sex, temperament, and features of the patient. The wax is now cut down along the centre line; the incision extending nearly through the wax, and again at a distance sufficient to let in one of the central incisors. The material between these incisions is hollowed out to receive the tooth; the central is pressed into the place, adjusted even with the remaining wax, and slightly banked around the end next the plate with wax. The same process is gone through with each tooth until the arch is completely filled. Only one bicuspid is set on each side, for reasons to be mentioned hereafter. The portion representing

the gum is next properly rounded, and may be made the color of the natural gum by covering the surface with a thin film of wax, colored with carmine or rose-red; this brings out the teeth in relief. At the next sitting of the patient—this arrangement requiring more time for its completion than is found at an ordinary sitting—the plates and teeth so fixed are put in the mouth, and any needed alteration, in inclination, turn, or prominence of any of the teeth, can be easily made.

This form is now copied by the tooth-carver, which can be done with considerable accuracy; I believe with entire correctness by a neat workman. Moulds are made over, or against the row of teeth, and in these moulds the enamel is first laid; upon this the body is pressed: thus an accurate copy is effected.

It must be remembered, in selecting the teeth, that the porcelain material, in burning, contracts. This contraction amounts generally, to one-sixth. This is the reason that but one bicuspid is set. In moulding, this tooth is produced in both the front and back block. For fuller descriptions on this point, see an article of Dr. Calvert, in No. 4, Vol. VII. of Dental News Letter. To him, I believe, is due the credit of having first made public the method of enamelling blocks in the moulds.

It is readily perceived, that in this manner a great improvement may be made in the relation of artificial dentures to the face; at least, it places the form and arrangement of the teeth in the hands of the operator, instead of throwing it upon the unguided skill of the manufacturer. This method, it is true, can only be fulfilled in block-work, and will be used probably by those only who have been in the habit of having their teeth so made. Notwithstanding "block-work" has many decided qualities over any other plan, none but those living near a block manufacturer can ever expect to have them made satisfactorily, a personal explanation being necessary to an understanding of the case; for this reason, and on account of the difficulties and disadvantages of making our own teeth, this way of setting has comparatively few followers. By an obedience of the rules here laid down these difficulties can be easily overcome. It is not here claimed that perfection can be attained, but that a decided improvement may be effected over the general standard of work made in this manner.

The best imitator of natural things must come far short of success, especially when his efforts are compared with true forms, or placed in association with other natural forms. There is in the soul an inexpressible power, which enables us at once to detect departures from harmony; each sense is disturbed by the slightest unpleasant touch;

the attuned ear is jarred by a trifling discord; we are pained by any departure from the true of associated forms, although the fault may be so trifling as barely to excite a thought. Let us, then, cease to be mere imitators; let us enter at once the domain of nature. We then can come forth, bearing in our hands true copies of our skill. However thus we may copy truly, however thus we may do better, and thus be on a truer path, he must be a genius who produces entire correspondence of feature; his name would be worthy a place among the gifted of all ages; and he would deserve the praise of all men.

For the Dental News Letter.

MAKING LOOSE TEETH FIRM BY MECHANICAL MEANS.

MESSRS. EDITORS:—A few months since I had a patient laboring under the painful effects of irritation, from long continued looseness of the four inferior incisors. He objected to the extraction and the substitution of a plate. The gums were so far gone, and the alveoli so much destroyed, as to prevent fastening them by medical treatment. It was therefore proposed to insert a plate, with clasps, to make firm the loose teeth. Fortunately, by pressing from the labial side towards the lingual of the left central, which was the most irritating, a general firmness was observed. A plate of coin gold was struck up, and made to clasp the posterior bicuspid and the before-named incisor. Either of the clasps did not fit the teeth till they were fitted after insertion, hence rendering it permanent. It proved to be of great benefit. To this many might object, for its fixedness and pliancy, but we have seen a plate which had been worn seven years, without being removed, or causing caries. The plate has thus far proved sufficiently stiff for all practical purposes, and doubtless will stiffen by use. This method should be resorted to only in cases of extreme nervousness or general debility, or persistent refusal to extract.

Enclosed you will find the right, superior, central and lateral, deciduous incisors, recently extracted, which you will see are united by a bony union. This seems to be of rare occurrence, and, by me, at least, never before seen, and, if read of, has escaped my recollection. These facts, if you think they will contribute to the interest of your useful periodical, you are at liberty to insert.

Truly yours,

J. A. CHASE, D. D. S.

Genesee, N. Y.

[The process of fastening named by Dr. Chase has been resorted to before, and is a very good method under the circumstances he names. Amalgam and silk ligatures have also been used for the same purpose.

Doubtless loose teeth may be retained in the mouth for a much longer time when treated in that manner, but whether it be good practice for us to yield to the wishes of our patients in such cases, is a matter of doubt. The retention of one loose tooth is liable to involve another, and so on until a number are destroyed, and the health of the maxillary bone endangered.

We are much indebted to Dr. Chase for the beautiful specimen of ossific union of a deciduous front and lateral incisor tooth. The union is complete, and only seems to have been confined to the roots, so that it could not have been anticipated before extraction, and the removal of the one necessarily involved the removal of the other. We have a number of specimens, both of the permanent and deciduous teeth, and as well of the roots as of the entire crowns.

J. D. W.]

For the Dental News Letter.

SOME PRACTICAL REMARKS

On making Casts, working Gold, making Solder, taking Impressions in Plaster, Soldering, etc. etc.

BY A. W. TODD, MONTGOMERY, ALA.

GENTLEMEN:—Permit me to introduce a few plain ideas, descriptions, and drawings, to your consideration:—

1st. In reference to material for casting. Take common Spanish whiting, and for every pound add about half a gill of any good oil, (perhaps sweet oil is best,) beat well in a mortar. If too dry, add a little more oil; if too damp or moist, add a little whiting, till (like sand) it is ready for moulding. Once ready, always so, for a long time, and makes as pretty castings as anything in the world. Of late, I use nothing but old type, as it is as good as anything yet discovered. Do not pour it, in any case, until it wrinkles considerably on turning it backwards and forwards in the ladle. To keep the two metals from sticking, use the common pickle, as a wash, instead of chalk or whiting: wipe it dry, etc.

2d. Proceed as follows: Have some sheet Russia-iron cups, made $2\frac{1}{4}$ inches deep and $3\frac{1}{4}$ inches in diameter, *without bottoms*, and have your plaster *patterns* prepared as follows: first varnish well all over with the shellac varnish, then, if there be any place on the outer surface that is not likely to *draw*, fill it up with a suitable piece or sheet of wax; make it very smooth, by wetting it, and rubbing it down with a glass stopper, or something of the kind. Varnish all again. Let it dry three or four minutes. Set it down in your tray of whiting and set your cup over it. Throw in your whiting; pack round hard, nearly

to the *gums*; turn it upside down, holding it in the hand, and with a suitable brush clear the *mouth*; set it down, and seive on, till covered, then fill up cup, pack well, scrape off, and have a long thin needle, and be sure to perforate well all over the cast, and especially the deepest part, and be sure that the needle touches it; neglect this, and an air-hole, in the roof of the metal cast, will be the consequence. The wax in the plaster roof for making the chamber should be about this shape and size, in most cases, for a full (*half*) set; let it be at least 3-16 of an inch thick, file it down, and carefully pare off the edges to a feather edge, as shown by the ink marks all round.* Rub down with a suitable piece of glass, as above described. Thus you will have the roof of the plate much easier to work, and feel so much more agreeable and natural to the patient. Indeed, great pains should be taken to have the wax so shaped, that its vacuum shall answer all purposes, and yet occupy as little space in thickness as possible. When properly done, it is hard to tell, by looking at the plate or job, when finished, where the chamber is. I am in favor of as large a chamber as possible, so as to distribute the given pressure as much as possible, as it makes it the more *tolerable* for the chamber portion of the roof. If there is as much bearing surface above as below, for masticating, what more is needed?

3d. Having procured your metal cast, and having another sheet-iron cup, $2\frac{1}{2}$ inches deep and $3\frac{1}{2}$ inches diameter, with a loose bottom, with a hole in the centre, for the purpose of passing a common wood screw, half an inch long, into a hole in the centre of the metal cast, (either drilled or made by sticking a wooden peg into it while cooling,) screw the bottom fast to the cast, set your cup over, (let it fit the bottom a little tight,) put in your whiting, pack well around up to the gums, and all round the sides to the top; now clean the *mouth* of cast by turning it upside down, and brushing and packing with the fingers, till you leave all naked that is necessary; then pour in your metal as before directed, (as cool as possible,) and separate, wash, wipe dry, and varnish well all over, which will keep your fingers from being *leaded*, also have a good tendency to keep your plate from being *leaded* while stamping; but to be safe, always before annealing, sponge with nitric acid. The best way to *stamp* is to use a *set hammer*, or something of the kind, it will save your cast from bursting, and is much more direct than blows from the hammer upon the naked cast.

* With the addition of the dimensions, we think the description sufficiently plain without a drawing. It is the ordinary form of air chamber, one inch long, by one and a quarter inch wide at widest part.—ED.

4th. As many are very much troubled to get gold to work or mill well, I will give my plan, which I discovered about fifteen years ago, and have not seen it fail the first time. Take a suitable sized crucible, rub its pores inside perfectly full of common chalk, put in your filings, scraps and gold (having first cleared the filings of whatever iron and steel dust there may be in them, by means of a magnet). Set your crucible into the fire, and let it heat slowly, to prevent cracking. Then commence blowing slowly till well *melted*; be sure to keep out the coal by having it covered with a scale of brickbat, or something of the sort; do not put any metal about your crucible except tongs, and they should not be suffered to touch the fused metal. Let the metal be shaken round occasionally, by lifting the crucible a little and giving it a small circular motion. Drop in a small piece of borax at the same time you put in your gold. When thoroughly melted, and having been well agitated, pour it into your ingot, it having been well cleaned, oiled, and warmed, (the oil must be free of water;) now try your gold, and see if it cracks under the hammer, (gently hammering the edge,) if so, put it back into the crucible, and having prepared plenty of *refined* saltpetre (nitre,) by reducing it to a coarse powder in a mortar, *put in plenty*, so that when you get up a high heat it will boil over, push up your heat, and let it run over freely; when it subsides, twist the stuff well once or twice, then pour in another good quantity of your nitre, cause it to flow over again freely, then twist as before, keeping a high heat all the time (as one must be in good earnest); then pour into your ingot, having it well prepared as before. Having faithfully followed the above directions, your gold will roll first rate. If you find it too soft, on hammering as before, a small quantity of copper wire (is best) must be added, which will make it a beautiful color, and quite springy.

5th. To make the best *Solder*. Take, say 240 grs. of our gold coin, (pick the reddest), and add 80 grs. silver coin, or any good silver, and 40 grs. copper wire, which is 2-6 silver and 1-6 copper, any amount you like, so the same proportion is observed. Have your crucible prepared as before, put in your gold and silver, a little borax, melt well, twirl it a time or two, then drop in your copper, and just as soon as it all melts twirl it well, and pour out immediately into the ingot. Before you commence rolling, always hammer the edges all round of all gently, to a smart slope, which has a good tendency to prevent cracking or splitting, and be sure to anneal well, and often, especially in the beginning. I do it by heating to a low red, and plunging into water. *Anneal before you hammer, and again before rolling*. The

above is intended to be a very plain and brief detail, and I hope will be well understood. Others may fail, but I now have no fears about it. It may seem very simple to others, and they may have more simple and short modes, and equally as certain, if so, I would like to learn them.

All who have not commenced taking impressions in plaster casting, will find it to their interest to do so. A little practice will prove it to their satisfaction, although the teeth (if any) in many cases are so *ragged* and irregular, that it would seem almost impossible to get a good one; yet it can be done. Though the impression breaks in removing, save the pieces as dry as possible, by directing the patient to drop them out of their mouth into their hand immediately. They can be put together as easily as many other things, varnished, oiled and filled, which do by having your plaster quite soft, and having no drops or puddles of oil in the impression; dip out a teaspoonful, and pour it on the impression, so that the plaster will run into (not over) the deep *holes* made by the teeth or otherwise, by continuing to pour a little at a time, so as to cause it to run out of one hole over into another, and another, and so on, till all are full, giving it a chance in every case to run to the bottom, on one side, and fill up. Thus continue till all are full, then pour in your plaster. Follow these directions, and you have no need of shaking, jarring, or blowing your plaster, but will find all perfect. When it is highly important to have the teeth draw whole, take a sharp-pointed instrument, and perforate the centre of the points or bottoms of the holes, and file the points of common six-penny nails round and sharp, and stick them in as many places as is important. Let them stand in a suitable direction, so when drawn, (the impressions separated,) they will be found occupying the centre of their respective teeth, their sharp points projecting a little. Great care, pains, and patience is very necessary sometimes to separate the *plasters* without spoiling them. Commence by giving a light tap all round the tin downward, which will soon produce a hair line of separation. Then commence working it with the hands, continue gently and gradually till you get them apart, when you will have a perfect model, one to be fully relied upon, if the proper pains were taken in getting the impression of the mouth. To keep the teeth in their places, have your plaster mixed with about half sand, and of the very finest. To prevent the plate springing, have the backs of good thickness, and be sure to make good joints, so as to use but little solder. Trim the plaster as thin as possible, and so that binding wire will press every tooth downward, pass turns round your plaster, so

each tooth shall have the benefit of one or two, as they may seem to require. The plaster should be serrated all round its edges, to keep the wires from slipping. This done, place your work on a large piece of pumice stone, it having a kind of cup dug out of it to receive it; have a handle stuck in the opposite side, pass some two or three wires round, so as to secure the work from falling, but be very careful not to press it tight, or you will cause it to *mash* or spread so soon as it gets hot. Heat by means of a flaming blaze, passing your work from side to side till hot, then commence soldering at one end, and go on gradually to the other, keeping up nothing but a flaring blaze, which should be suddenly and severely dashed on at the proper moment, and withheld the moment the solder flows, and shows a smooth face; use as little borax as possible, for when there is too much it makes the work rough. Pumice stone is much neater than coal, and like the whiting is always ready, though it requires more blowing, yet the work is much safer, and one, with a little practice, will find he can do a better job on it than coal. Perhaps spirit, self-acting lamps are best, but I have never used them, and hardly think I ever shall.

To make the best lamp, have a tin box made two inches square, one foot long, with both ends stopped; let a spout be soldered to one end, five inches long, raised so that the liquid will not run, and when sitting level, also have a large hole on top to pour the liquid in.*

The above lamp is the best out for mouth-blowing, as it can, by putting a weight on it, be made to extend out from the bench, so as to work round the blaze freely, besides a little tilt gives an extensive back body of fluid at the base of the spout, so as to blow or work on for a long time, without alteration. It is also very portable.

The above is very respectfully submitted for your publication, if you are so disposed, as it is intended for nothing but a benefit to the faculty and the world at large.

For the Dental News Letter

GOLD FOIL.

[The following we extract from a business letter from Dr. F. Coar, now located in Germany. The question as to what is the best form and method of using gold foil, is now exciting considerable attention and discussion, and the views or mode of practice here advanced, may prove of some interest.—ED.]

I have become quite in love with your foil within the last two

* Here, again, a cut is unnecessary, as the description is sufficiently plain.—ED.

months, as you will see by my order. This has occurred from a manner that I have lately adopted in using it, but which may not be at all new to others. It is simply rolling in ropes, and cutting the ropes in short pieces, in the manner that Dr. Arthur does his annealed gold. These ropes I make from a third of a sheet of No. 5 to two sheets of No. 6, and sometimes I have rolled three sheets together, regulating the size of the rope and the length of the pieces by the cavity which I have to fill. If the cavity is shallow, I cut the rope in short pieces; if it is small, I make small ropes, and cut them in small pieces, allowing the pieces to be a little longer than the depth of the cavity. These pieces I can easily take up on the point of the instrument, and pack them in with great facility side by side, until the cavity is full, the ends of the sections extending out some distance beyond its walls, and as they partake somewhat of the nature of *cylinders*, (the grain of the gold having one general direction toward the bottom of the cavity,) the after packing or condensing appears to wedge in those sections exceedingly solid. As they are intermediate between a pellet and a cylinder, they partake of some of the good properties of both:—of the pellet, that it is capable of being forced into more irregular positions than a cylinder:—of a cylinder, that the strata of the gold is preserved in a general direction towards the bottom of the cavity, thereby permitting a greater condensation of the metal. I have heretofore been using sometimes cylinders, sometimes pellets, very often the plain rope, and occasionally the gold folded in a tape, but I have never yet been able to manipulate with gold prepared in either of those forms, with as much satisfaction as I am now using these sections of rope. I would say to any one who has not already had experience in working their gold in this manner, to give it a trial.

For the Dental News Letter.

THE HEROINE OF TOOTH PULLING.

The heroine of tooth pulling, we think, visited our office this morning. We give you the case to dispose of as you may like.

Mrs. E——, of about twenty-one or two years, came into the office this morning, took her seat, remained in the seat one hour and thirty-six minutes, in the presence of two or three ladies, and had thirty-four teeth, with fifty-two fangs, extracted. This was done without any anesthetic save a strong whiskey toddy. It is proper to state that she had two of her first set of teeth she had ever shed. This made thirty-four teeth, having fifty-two fangs.

N. HACKWORTH.

[Strong drink leads to many excesses.—ED.]

ODONTALGIA.

The term comes from the two Greek words, ὀδὸν ἀλγία, Tooth and Pain; and as by the termination, "itis", we are to understand an inflamed condition of the part designated in the prefix, so in the termination, "algia," are we always to understand that pain is meant—thus, Odont algia—Odontalgia, pain in a tooth, toothache.

Odontalgia may have origin in a variety of causes; it may have a sympathetic origin, in which the cause is situated in a far distant part. Odontalgia nervosa, or diseases of a similar nature—it may result from inflammation of a pulp, or periosteum, from erosion, abrasion or caries, from exostosis, necrosis, etc. etc?

When the disease presents itself, the matter of principal consequence in any case, is the proper understanding of its cause, whether the pain comes from caries, periostitis, inflammation of a pulp, or from which of the various directions influencing it.

Let us consider some of the features :

Our attention is directed to a particular tooth as the seat of pain, which, on examination, we find very slightly, or as in the books it is written, superficially carious, the parts in all other respects normal. What is the difficulty? Certainly not inflammation of the pulp, not periostitis. We have here simply an exposure of the enamel membrane; a few strokes with a sharp excavator, and the polishing of the exposed dentinal wall, and we have the disease cured.

Complicated Caries.—Pain, which on examination is found to proceed from a tooth wherein there is an exposure of the nerve, suggests the destruction—mechanically, or otherwise, as indicated—of the pulp, its entire removal, and the filling of the cavity with metal.

Sympathetic Odontalgia.—The origin of pain in these cases is to be searched for in a distant part; most generally, however, we need go no farther than to the class of teeth developed at the period of the one indicated as affected. On failing to discover it here, following on the same known laws of nervous radiation, we may continue our search over the branches of the fifth pair of nerves, about the pes anserines of the portia dura, and indeed throughout the body.

A first examination is, however, always to be directed to the neighboring teeth; if any be found affected, treatment may be directed accordingly.

In making out our diagnose, close observation is required, otherwise we may be led widely astray. A tooth in which the pulp is gangren-

ous, or dead, may present, at a superficial glance, quite a lively appearance, and only by reflecting light on it from various points, may we remark its obtuseness.*

Odontalgia Nervosa.—This neuralgic affection presents the feature of periodical pain, shooting with violence along the affected jaw; it may, from time to time, centre in some particular tooth, or a class of teeth, which teeth, on examination, will generally be found less perfectly developed than the adjoining.

This being entirely a nervous disease, its antidote must of course be employed as indicated. The food should be solid and nourishing, yet easy of digestion; the bowels must be kept regular, and the body daily bathed in cold water; tonic medicines will be found of benefit.

Odontalgia resulting from Exostosis.—Of the existence of exostosis in its earlier stages, it is difficult to judge. When, however, Odontalgia is induced by it, the pain comes on almost imperceptibly, is regular in its increase, and continuous; the sensation experienced is something akin to pressure, or as if the tooth was crowded in its socket. Extraction of the offending tooth or teeth is the only remedy. As exostosis is the result of an excessive nutrition, it is well to examine if it may not have a local cause. A professional friend very lately directed my attention to a case of this disease, where it seemed evident the exciting cause existed in an improperly inserted gold filling.

Odontalgia resulting from Necrosis.—A tooth affected in this direction will generally be found somewhat loose, and presenting a muddy brown appearance. Odontalgia is here an indirect result; indeed, the term seems scarcely applicable; the pain existing rather in the living parts surrounding the gums are nearly in every case quite turgid. Extraction is the proper remedy.

Odontalgia resulting from a congested condition of the supporting vessels of the mucous membrane.—From an undue amount of pressure

* During the late illness of Prof. Townsend, I received from him, late of an afternoon, a note, in which he desired that I should visit one of his patients, a gentleman living in Union Place, and who he represented to me as suffering terribly from odontalgia. I complied immediately with the request of my friend. On my arrival at the residence of the gentleman, being shown at once into his sitting-room, I found him tossing upon a lounge, evidently in the greatest pain. Around him stood his family and physician, in despair of giving him relief, excepting through the operation of extraction, and to which he positively refused to submit, the tooth being in front of the mouth. A moment's examination convincing me of the character of the disease, which was the death of the nerve, I passed a drill into the chamber, the withdrawal of which was followed by an immediate gush of pus, and the complete subsidence of all pain.

about the necks of the teeth, exerted in an inflamed condition of the mucous membrane, disease is often attributed to them which has no existence. In such a condition, to afford immediate relief, it is only necessary to freely scarify the gums.

Odontalgia resulting from inflammation of the periosteum.—In this direction we have one of the most common, and at the same time most alarming causes of pain. The symptoms are: great soreness of the affected tooth, protrusion from its socket, swelling, heat and pain in the surrounding parts, and a general sympathizing by every part of the system. The treatment is precisely the same as for inflammation in any other part. The features are, 1st, simple vascular excitement; 2d, congestion; 3d, stagnation; each of which indications are to be met, and in their turn combatted or influenced. Where the first and second stages defy, suppuration may be hastened by gently heating applications. To cleanse the cavity of the pus and accompanying fluids, there is perhaps nothing equal for its slightly caustic, alterative and stimulant properties, to simple spirits of camphor, a remedy to which my attention was first directed by Dr. Daniel Neall. In one or two cases I have known a single injection of this tinctura camphoræ to secure surprisingly good results.

For the Dental News Letter.

CARIES AND NECROSIS OF BONE.

BY J. D. WHITE.

It would seem that this affection is increasing in our cities, or from some unknown cause we annually see more of it. It seems to be no respecter of persons; it attacks alike the school Miss, who is too closely confined to a warm and badly ventilated, but what the world calls comfortable, school-room; the industrious housewife, who from her many family cares, never leaves her room or house, to get out-door air and different exercise, but leads a confined and monotonous life, until some vice attacks the system; it attacks the wealthy, who lead a luxuriant life, and do a great deal of nothing in-doors, but have an abundance of excitement of various kinds, incident to such a life, which finally exhausts the nervous energy and vital force, and exposes the system to being attacked by any predisposing vice, that otherwise never would have shown itself. It would seem that few, if any, in the community, ever studied how to live, except to be immediately comfortable; no matter what the temperament may be, or predisposition of the system, the same routine of life is aimed at by all. If we recommend the extraction of a dead root or tooth, in what we regard as a

vitiated temperament, it is at once opposed, on the ground that such an one of their friends has had one of the same kind in the mouth for years, or that their own has been so for years, and did no harm. If we advise a patient, even when suffering from the disease, that the system wants building up by a different life or regimen, they do not feel that it is worth while to go to so much trouble for so small a cause; they do not see the necessity, although they may be as pale as death; their very languid walk, hardly able to drag one limb after another, is of no alarm, the mind is satisfied and happy with their affairs of life, although the vital force is gone, and their flesh and bones are falling to pieces.

Case 1.—A lady patient presented herself, age about thirty-five, lymphatic temperament, languid in her movements, subject to flushes of the cheek from the slightest innovation. She had been suffering from pain in the right superior maxillary for more than a year; two or three teeth had been extracted, but did not afford entire relief. We discovered an orifice in the gum, corresponding to the former locality of the first molar. Upon sounding with a probe, we discovered a detached portion of bone, which we removed; the piece was of a dark color, with some loss of substance, resembling the condition as described by *Jourdain* as the third degree, or worm-eaten caries. We have been using nitrate of silver with advantage; the pus is thin and slightly yellow. With difficulty we got the patient on a good diet and systemic treatment with their physician. There is yet some undetached bone in this case, which is very hard to the touch of the probe, and doubtless will require time in its treatment.

Case II.—A lady called to consult us about a severe pain, from which she had been suffering for two or three weeks, along the left superior maxillary and temple, and generally on that side of the head. She was of opinion that it originated in a tooth, but we satisfied ourselves that it was not caused by a tooth, and referred the patient to her family physician, believing it to be inflammation of the antrum or neuralgia, induced by undue excitement, to which she had been for some weeks exposed. We were sent for in a few days after to visit the patient, and found the symptoms increased, but more confined to the superior maxillary. We believed that it was inflammation of the antrum, or necrosis. The teeth were sound, gums looked healthy, no soreness to the touch, no looseness of the teeth, or tenderness to the stroke of an instrument. We suspected the disease, but did not venture a prognosis, as the case was in the hands of the family physician. The patient was of a heavy lymphatic temperament, somewhat emaci-

ated, had been taking but little care of the health for some time, and exposed to considerable excitement of mind; apparently possessed of more mental energy than physical force. We heard no more of the case for nearly a month, when we were again sent for. We found the first and second molars, (the wisdom tooth had been lost for some time,) extremely loose, the gum much swollen, and pus discharging from a number of spongy orifices. We at once pronounced it a case of caries or necrosis, and was unwilling to do anything in the case until we could see the family physician in consultation. We met him, and concluded to extract the first molar; this was done, and a considerable portion of bone was found loose, which was also removed. The bone had not lost its color, but considerable substance, and the cavities filled up with a new and very soft, red, fleshy and insensible substance; the second molar was removed in a few days after. The neighboring portions of bone were soft and flakey, and yielded to the probe; the soft tissue insensible. We applied the stick of caustic to slough out this morbid tissue, which was readily effected. The parts have healed kindly; the family physician employed the iodide of potassium and sarsaparilla; nutritious diet and out-door air. This case doubtless arose from constitutional causes, and attacked the spongy substance of the bone, and belongs to the second degree of Jourdain. We would remark here, that the teeth were entirely sound.

MINUTES OF THE THIRD REGULAR MEETING OF THE WESTERN DENTAL SOCIETY.

[Through the kindness of the publishers of the "Dental Register of the West," we have been put in possession of the following report of the proceedings of the Western Dental Society, which we have taken the liberty to abbreviate somewhat, withholding nothing, however, that could prove of general interest. The report of the discussions we give in full.—ED.]

ST. LOUIS, May 20, 1857.

The Society met as per adjournment, in the Temperance Hall, at 10½ o'clock, and was called to order by the President. An abstract of the minutes of the last meeting, held at Chicago, was read by the Secretary.

On motion of Dr. Allport, Dr. Taft was elected an honorary member of this society.

Dr. Allport moved that a business committee of three be appointed, which was carried, and Drs. Allport, Spalding and Peebles, were appointed said committee.

On motion of Dr. Spalding, a recess was taken to give the committee time to report.

After the time had expired, the meeting was called to order, and the committee reported business for the action of the Society, as follows:

Report of Business Committee. I. Election of members. II. Election of officers for the ensuing year. III. Miscellaneous business. 1st. The best method of arresting decay in the teeth. 2d. Causes and treatment of diseased gums. 3d. Cheoplasty. 4th. Difficult Dentition. 5th. In what cases, if any, is it answerable to preserve the fangs of the natural teeth for the reception of artificial crowns.

The committee reported the following gentlemen as having passed satisfactory examinations, and recommended them for membership: Dr. Hubbard, of Quincy, Ill.; Drs. A. M. Leslie, C. B. Porter, D. L. Levett, of St. Louis, who were unanimously elected.

On motion it was decided to proceed to the election of officers in the usual way.

Pending the election, it was, on motion, ordered, that a committee of two be appointed to invite Dentists residing in the city, and who are not members, and other members of the profession who might be in the city, to attend upon the deliberations of the society. Drs. Silvers and Leslie were appointed a committee.

On motion of Dr. Spalding, it was resolved, that the officers be elected by an informal ballot, which resulted as follows:

President, Dr. ISAIAH FORBES; First Vice-President, Dr. H. N. Lewis; Second do., Dr. C. B. Porter; Recording Secretary, Dr. H. E. Peebles; Corresponding Secretary, Dr. H. J. B. McKellops; Treasurer, Dr. A. Blake. Executive Committee, Drs. H. Barron, W. W. Allport, S. Dunham, E. Hale, Sen., and — Bull.

Dr. Hale, the former President, conducted the President elect to the chair, who delivered a very appropriate address for the occasion.

On motion of Dr. Perrine, the thanks of this Society were tendered Dr. Hale, for the ability with which he has conducted the proceedings of the Society for the last year.

Dr. Allport moved that the chair appoint five delegates to the American Dental Convention, to meet in Boston in August next.

The Society adjourned to meet at 3 o'clock, P. M.

In pursuance of adjournment, the Society met at 3 o'clock, P. M.

President in the chair. The minutes of the morning session were read and adopted.

Reports of Committees being called for, the Committee on By-Laws reported as follows :

BY-LAWS.

ARTICLE 1.—The constitution of the W. D. Society shall be deemed the fundamental law of this Society.

ARTICLE 2.—This Society shall be governed by parliamentary usage.

ARTICLE 3.—*Order of Business.*—1st. The minutes of the preceding meeting shall be read. 2d. Reports from Treasurer and Standing Committees. 3d. Election of members. 4th. Election of officers. 5th. Unfinished business. 6th. Miscellaneous business. 7th. Reading essays and papers. 8th. Payment of dues. 9th. President's address. 10th. Reading, correcting, and adopting the minutes.

ARTICLE 4.—No member shall speak more than once on the same subject, till all have had an opportunity to speak.

All of which is respectfully submitted.

W. W. Allport, H. E. Peebles, I. Forbes, *Committee.*

On motion of Dr. Spalding, the report was accepted. The By-Laws were then read, amended, and adopted article by article.

Miscellaneous business being then in order, Dr. Perrine offered a preamble and resolution on local societies.

Whereas, It is evident to the observing Dentist that our profession has been more rapidly advancing in usefulness and knowledge since the organization of the American Dental Society than at any former period of time. And, *whereas*, this fact is mainly attributable to organized association and its concomitants, the general and firm interchange of sentiment and diffusion of knowledge, through free discussion, the school, and the press. And, *whereas*, the multiplication of Dental Societies in our own country has greatly increased the facilities for acquiring correct information, and emulating individual enterprise. Therefore,

Resolved, That we approbate, encourage and advise the formation of local Societies in all places where they can be sustained.

The motion was seconded by Dr. Allport, and adopted.

Dr. Allport moved that a committee of five be appointed, with Dr. Taft as its chairman, to examine, test and report on "Cheoplasty." Adopted.

The President appointed Drs. Taft, Allport, Lewis, McKellops, Leslie and Dunham as said Committee.

Dr. Perrine moved that a committee of three be appointed to consider and report the subject of patenting by the Dental profession.

Drs. Perrine, Barron and Hubbard were appointed. No more miscellaneous business being presented, the regular order of business was taken up.

The best manner of arresting decay in teeth was then discussed.

On motion of Dr. Barron, the Secretary called the roll, and each member present responded, and gave his views upon some special case of filling, filing or cutting, and polishing, aided by diagrams on black-board.

Adjourned to meet at 8 o'clock, P. M., in room of St. Louis Dental Society; and also to meet in this Hall at 9 A. M., to-morrow.

Pursuant to adjournment, the Society met in the rooms of the St. Louis Dental Society, at 8 P. M. Second Vice-President, Porter, in the chair.

Discussion on tooth filling continued, which took rather a wide range, embracing collateral issues.

Dr. Perrine presented the name of Dr. I. B. Branch, of Galena, Ill., for membership.

Adjourned to meet at the Hall at 9 A. M., to-morrow morning.

SECOND DAY—MORNING SESSION.

Pursuant to adjournment, the Society met in their Hall, at 9 o'clock, A. M. President in the chair.

The minutes of the afternoon and evening sessions were read and adopted.

Dr. Geo. H. Silvers presented the name of J. W. Fulton, of Paris, Ill.; Dr. E. Hale, Jr., presented the name of Dr. McCuen, of Louisiana, Mo., and Dr. Perrine presented the names of Dr. A. Blakesly, of Utica, N. Y., and Dr. C. M. Forbes, as candidates for membership.

MISCELLANEOUS BUSINESS.

Dr. Perrine offered the following resolution:

Resolved, That all members present having performed any operation requiring peculiar manipulation, instruments, or any thing new, may have the opportunity to present them after the order of business.

After which Dr. I. B. Branch, of Galena, Ill., was elected an active member, and Dr. A. Blakesly, of Utica, N. Y., an honorary member.

Dr. Spalding received a letter from Dr. A. W. French, of Springfield, Ill.

On motion of Dr. Perrine, the letter was read, and the following resolution adopted:

Resolved, That the exhibition of specimen cases of dental mechanism at Cattle Shows, Mechanics' Fairs, and other similar places, can but

be regarded as derogatory to our profession, and will never be resorted to by any intelligent Dentist who desires its elevation.

After which the discussion on the cause and treatment of diseased gums was resumed. The roll was called, and each member responded, making the discussion interesting, and somewhat amusing.

On motion of Dr. Allport, the discussion of this subject was discontinued after the remarks of Dr. E. Hale, Sen.

The executive committee presented the name of C. M. Forbes for membership, who, on ballot, was elected.

On motion of Dr. Spalding, a committee of five was appointed on dental fees, to report to-morrow. Dr. Spalding, Allport, Lewis, Branch and Porter were appointed said committee.

On motion of Dr. Allport, the hours from 3 to 5 o'clock this afternoon, were appropriated to speaking on any or all subjects proper to come up.

Adjourned to meet at 3 o'clock, P. M.

Met agreeable to adjournment, at 3 P. M.

1st Vice President in the chair. On motion, the reading of the minutes of the morning session was dispensed with.

On motion of Dr. Dunham, the members were limited to ten minutes.

After this discussion, the society proceeded to the consideration of instruments, apparatus, etc.

Dr. I. Forbes exhibited an instrument for drying out partially filled cavities. Dr. E. Hale, jr., presented an instrument used with advantage in swaging plates. Dr. Perrine exhibited a flask for holding a case of teeth while soldering, and, also, a book for recording dental operations. Dr. Peebles presented an instrument for holding a polishing stone in finishing fillings.

The time having expired for miscellaneous discussions, on motion, it was extended half an hour. And when this had expired the discussion was further extended.

Adjourned till 9 o'clock, A. M., to morrow.

THIRD DAY—MORNING SESSION.

Meeting called to order, pursuant to adjournment, by the 2d Vice President, Dr. Porter.

The minutes of the previous session were read. Miscellaneous business was then taken up. Dr. Perrine offered a preamble and resolutions on the death of the late Dr. Hullihen.

Whereas, By the inscrutable decrees of Divine Providence, there has been taken from his career of usefulness on earth, to that bourne

from whence no traveller returns, Dr. Hulihan, of Wheeling, who by his superior skill and attainments, had become a beacon light in his profession, who by his usefulness and generous manifestation, had not only endeared himself to those whom his skill had benefitted, but to every member of his profession, and which will be imbedded in their grateful hearts, until time shall be no more. Had become a radiant star in the bright galaxy of surgical dentistry, ever maintaining that dignity in his profession which enabled him to compel others of a kindred profession to submit to his performing every operation that rightly belonged to dental surgery. Therefore, be it

Resolved, That the Western Dental Society deeply sympathize with the relations of our brother, so suddenly taken in the bloom of life.

Resolved, That a copy of these resolutions be transmitted, through the Secretary, to the relatives of the deceased.

Resolved, That these resolutions be published in all the Dental publications in the Union.

The name of Dr. Hannaman, of Shelbyville, Ill., was presented by Dr. Sturges for membership, and was referred to the Executive Committee.

The subject of "Difficult Dentition," was called up, but no discussion elicited.

Reports of special committees were called for, and the committee on dental patents reported, which was received, and after some discussion, part of it was laid on the table, and the balance referred back to said committee.

The committee on "Cheoplasty" reported, which was received and adopted.

The committee to whom was referred for consideration the style and construction of artificial dentures, denominated "*Cheoplastic*," would respectfully submit the following report:

We have examined the subject as thoroughly as time and opportunity would permit.

We are unadvised in regard to the composition of the material of the base. It seems sufficiently dense, and it is stiff enough when formed into thin plates for all practical purposes.

It is not more readily bent or changed in form, than a swaged gold plate. It possesses, in our opinion, when properly constructed, quite as much, if not more strength, than a piece of work well constructed of gold.

We do not entertain a doubt about the durability of the work, so far as strength is concerned.

In regard to the indestructibility of the metal, we have not much to say, because we do not know much about that. We are acquainted with the fact, however, that it has been in the mouths of various persons for several months, without any perceptible change. And, it is worthy of notice, that some of those persons are competent to detect even the slightest change, either in the appearance of the metal, after it has been worn in the mouth, or by anything peculiar, while in the mouth.

From what knowledge we have obtained in regard to this metal, we concur in the opinion, that it may be used in the majority of cases with impunity, and, perhaps, in all, so far as destructibility is concerned.

There are two or three particulars, in which it possesses excellencies not to be found in other styles of work. There are no interstices or points for lodgment of food or other substances. In the construction of the pieces, the base is adapted to the teeth, and not the teeth to the base; and that adaptation is perfect. Consequently, it is easily kept clean. Indeed, the same care required to keep the natural teeth clean, would preserve this in perfect condition. We consider the adaptation to the gums more perfect and more easily obtained, than by any other method. The metal neither contracts nor expands, when passed from a low to a high temperature. It is cast to the model, and runs very sharp, so that it makes a perfect counterpart of the model. Hence, a perfect fit is the result, if an accurate impression of the mouth has been taken. Any desired shape can be given to it, for the more perfect restoration of the features. Any kind of teeth may be used in its construction. Those teeth in sections or blocks seem to be well adapted to it, and the ordinary gum or plain teeth may be used with facility; but teeth are now manufactured especially for this kind of work, so formed that it is impossible, after a piece is constructed, to remove them from the plate, without either cutting away, or melting the plate, or breaking the teeth.

The facility with which it may be constructed, is particularly worthy of notice; though we doubt not under the excitement of unanticipated success, impressions have been made on the minds of many on this point, that will not be completely verified in the execution of the work. And we would suggest to those interested in the matter, that they should not make this point *too* prominent, though in *their* particular cases, all they affirm may be correct. Yet, we hesitate not to say, from our present knowledge of the work, that artificial dentures can be constructed by this mode, with greater facility than by any other efficient mode in use. A tooth can be replaced, or any injury of the plate repaired without difficulty, and in a short time.

It has been objected that the work is too heavy; but it is not more objectionable in this respect than some other kinds, for instance, continuous gum work, or blocks on heavy gold plate.

There are some patients that will complain of any denture, however light, in the mouth. With such, it is the *presence* of anything in the mouth, and not the weight that causes the objection. A heavy plate and perfect fit is far preferable to a light plate and an imperfect fit. It is also objected, that the metal is not sufficiently indestructible. On this point we have nothing to say. Our experience in regard to this being very limited. On this particular, we rely mainly on those who have more experience, and who have, for a much longer period, and under more favorable opportunity, directed their attention in this channel.

All of which is respectfully submitted,

J. Taft, H. N. Lewis, S. Dunham, A. M. Leslie, H. McKellops,
Committee.

The committee on Dental Patents reported, which was received and adopted.

Whereas, The multiplication of Dental Patents in our country seems to be a source of reasonable apprehension, lest the honor and standard of our profession be lowered. Therefore,

Resolved, 1st. That the principle of patents as usual in our profession of late, is unprofessional, and not consistent with an honorable profession.

Resolved, 2d. That we do not consider it wrong for any member of our profession, who may invent a useful article in the manufacture of artificial structure, or instruments, to patent the same, provided he confine his patent to the sale of the material, at a reasonable charge, and not to the use of the same.

Dr. McKellops offered the following resolution:

Whereas, In consequence of great benefit enjoyed by the dental profession, from the peculiar manipulation of Dr. Arthur in filling teeth, we feel it a duty and privilege to manifest our approbation of these benefits, in some tangible form. Therefore,

Resolved, That a committee be appointed to prepare a testimonial of thanks, which shall be presented to Dr. Arthur, by the Western Dental Society. Adopted.

Committee, Drs. McKellops, Taft and Allport; and, on motion, the President was added to that committee.

Dr. Peebles offered the following:

Resolved, That a committee of three be appointed to present at an

early period, the regular order of business for the next annual meeting. Adopted. Drs. Peebles, Perrine and Blake, Committee.

The executive committee examined and presented Dr. G. Hannaman for membership, who, upon ballot, was declared duly elected.

The committee on Fees and Professional Etiquette reported.

REPORT OF COMMITTEE ON FEES AND PROFESSIONAL ETIQUETTE :

Resolved, That the long experience and thorough course of study needful to render the dental practitioner competent to discharge the responsible duties of his profession, entitle him to a fair compensation for services rendered. That cheap dental operations, either surgical or mechanical, are dear and usually unsatisfactory to the patient, and tend to degrade the profession, in the estimation of the community.

Resolved, That this society recommend the formation of local societies, for the purpose of regulating fees, and at the same time promoting harmony and good feeling among the members of the profession.

Resolved, That a dentist offering to travel out of his regular field of practice, to perform operations in the field of a brother practitioner, for less than the usual fee, is discourteous and unprofessional.

C. W. SPALDING.

The above report was adopted.

The President appointed Drs. Taft, Allport, Spalding, Branch, McKellops and Forbes, as delegates to the American Dental Convention.

On motion of Dr. Perrine, it was

Resolved, That when we adjourn, we do so to meet at Quincy, Ill., on the third Tuesday in July, 1858.

Adjourned to meet at 2½ P. M.

AFTERNOON SESSION, 2½ P. M.

Pursuant to adjournment, the meeting was called to order. President in the chair.

The minutes of the morning session were read and adopted.

The subject of "Difficult Dentition," was again called up, and elicited a very interesting discussion, and a pledge from the members to aid in the acquisition of knowledge on this subject, by experimenting during the ensuing year.

On motion of Dr. E. Hale, jr., the subject of difficult dentition is made the special order of business for the next meeting.

The report of the committee on Prof. Arthur's plan of filling teeth was presented and adopted.

Resolved, That to Dr. Arthur, and he alone, the Dental profession is under obligation, for his liberality in laying before the profession

the principle of using and welding together annealed gold, by the use of serrated pointed instruments, and that this society desire to express their thanks to him for this, one of the real improvements in the mode of operating.—II. McKellops, J. Taft, W. W. Allport, Committee.

On motion of Dr. Allport, we now occupy the remainder of this session in free and promiscuous discussion, no member occupying more than ten minutes in one speech.

On motion of Dr. Allport, a committee of five was appointed to test local anæsthesia, and to report at the next meeting. Allport, McKellops, Dunham, Ferris and Porter, were appointed on that committee.

The minutes were read, corrected and adopted.

On motion, adjourned to meet in Quincy, Ill., July 22d, 1858.

ISAIAH FORBES, President.

H. E. PEEBLES, Secretary.

P. S. After the meeting adjourned, a lot of specimen teeth and tin work, also a platinum case, also an old broken tin case, which had been used for a number of years, was received from Dr. W. G. Oliver, of Buffalo, N. Y., and presented by Dr. Perrine, who also read a lengthy letter from the same gentleman, to the various members who were still in the city. P.

Report of Discussions of the Third Regular Meeting of the Western Dental Society.

FIRST DAY—May 20.

On taking the chair, Dr. Forbes, of St. Louis, in a few appropriate remarks, touched upon the importance of social intercourse among the members of the profession—said that our profession is called the twin sister of Medicine—directed attention to the great responsibility resting upon practitioners of our art, considering it greater than that of other professions, not excepting either Medicine or Theology—alluded to the first meeting of the Society, held in this city about a year ago, and called attention to the various methods of practice discussed at that meeting, mentioning the necessity of reviewing our operations for the past year, and of inquiring how far each member had been benefitted by these discussions.

Dr. Hale, Sen., of St. Louis, responded, thanking the Society for the honor conferred upon him by electing him its first President.

AFTERNOON SESSION.—Subject: *What is the best method of arresting decay in teeth?*

Each member requested to describe his treatment of some particular case.

Dr. Hale, Sen., takes cavity in posterior surface of first bicuspid. After cleaning the cavity in a proper manner, and preparing gold in smoothly folded blocks, adapted in size to the size of the cavity, he first places a conical block in that portion of the cavity nearest the gum—then a block is introduced on each side, then one opposite the first, and then fills up the middle—condenses and finishes in the usual way.

Dr. Spalding, of St. Louis, takes a very simple case, that of a cavity in the grinding surface of molar. He first enlarges this orifice until the walls of the cavity are perpendicular, or nearly so; then slightly rounds the margin of the cavity, just enough to remove the sharp angles of the corners, and fills with cylinders, condensing the first one against the posterior wall, and so on until the cavity is full; then introduces a tapering point near the middle of the filling, condensing in every direction, and completes the plug by the introduction of a conical cylinder.

Dr. Allport, of Chicago, describes his treatment of cavity in approximal surface of superior central incisor. If the adjoining surfaces are parallel, would separate with file, and when possible, remove the entire cavity by filing. When the crowns are conical in shape, separates by pressing apart, and fills the cavity, avoiding the file as a means of separation when the teeth are to come into contact after the operation—uses cylinders in all approximal cavities.

Dr. Dunham, of St. Louis, exhibits his mode of filling cavity in anterior approximal surface of inferior lateral incisor—cavity large, extending nearly or quite down to cutting edge. Separates widely with file, fills with fold, using serrated instruments for packing—by their use is enabled to fill rapidly, and to succeed in filling very shallow portions of the cavity, especially the point at or near the cutting edge of the tooth—thinks such fillings are not as hard as those composed of cylinders, but believes they are sufficiently dense, and are usually successful—thinks more teeth are lost by the failure of fillings, and a consequent unwillingness on the part of patients to submit to a second operation, than from any other cause.

Dr. McKellops, of St. Louis, takes the case of a compound cavity in inferior second molar, involving both approximal surfaces, and extending entirely across the grinding surface. Makes a wide V shaped separation between first and second molars, and a narrow parallel one between the tooth involved and that standing behind it—first fills the body of the anterior cavity with cylinders, finishing at the top with annealed foil, used after Arthur's method, and extending the same

towards the central cavity—then fills the body of the central cavity also with cylinders, connecting with the anterior by the use of annealed foil, as before—then fills the posterior cavity in a similar manner, allowing the projecting ends of the cylinder to rest against the wisdom tooth, and completes the filling by uniting the posterior and central portions by the use of annealed foil, as before—all projecting portions are afterwards dressed off with a file.

Dr. Lewis, of Quincy—Concurs with Dr. Allport, in the treatment of cavities in the incisor teeth—removes the cavity by the use of the file, when that can be done—the proper method has been already described by others.

Dr. Blake, of St. Louis—The subject before the Society for discussion is the best method of filling an incisor tooth.

The case I present is a lateral, badly decayed on the front approximal surface, the lower portion having broken away.

On examination, I find the only part of the tooth which can be retained, is from the center of the cutting edge to the surface of the tooth where it enters the gum.

As teeth of this description may be preserved and restored to their natural shape, I will briefly give the method I adopt in their treatment.

Before I proceed, however, I wish to remark that I do not in all cases advise filling teeth that are thus decayed. Formerly, all of this class and condition were made to give place to artificial work; but now, with the improvements in our art, it is otherwise. I would also say that I am indebted to Dr. Arthur, of Philadelphia, and to Dr. Nichols, a member of this association, for important suggestions on this subject.

I will now suppose a patient seated in the chair, with an incisor as above described. After examining it, and its neighbors, if I determine on its preservation, I lay all my plans, then proceed with the operation—first, with a file I make the edges even and smooth, against which I wish to build my filling, then with excavators and drills, carefully clean and prepare the cavity. If the nerve is exposed, I treat and remove it, then fill the fang, which leaves a good attachment for the plug; but if it is possible to preserve the nerve, I in all cases do so. If I do not attach to the filling of the fang, I usually make two places of attachment, one near the upper portion of the cavity, and the other as near the lower as the strength of the tooth will permit. Having thus prepared the cavity, I proceed to anneal the gold.

Have generally used Dunlevy's for this purpose, but recently have

been using foil manufactured by our worthy Secretary, Dr. Leslie. I divide a sheet into three equal parts, and fold so as to make my strips about one-fourth of an inch in width. I cut these in pieces about five-eighths of an inch in length. I now place these pieces, as many as convenient, without touching each other, on a very thin piece of platina, and heat over a spirit lamp, using a blow-pipe, so as to raise a white heat.

Having a sufficient quantity prepared, and all things ready, I direct the patient to take as easy a position as possible, telling him it will require some time to complete the operation. I proceed to dry the cavity, using prepared cotton.

I always use serrated instruments for these plugs, but seldom have more than three points. I generally take three pieces of gold to commence, but after making the attachment to the tooth, use only one piece at a time, carefully and thoroughly condensing as I proceed.

In this manner, if kept dry, we may build out to any extent we wish. I build to a little more than the full size of the tooth—then dress down with files to its proper size, giving it as natural a shape as possible. I next burnish, then stone down and burnish again. It is now ready for fine pulverized pumice stone, which I use with soft wood, also with tape. I again burnish lightly, which gives a high finish. As this, however, would strike unfavorably the eye of the beholder, I touch it over carefully with pumice. This completes the operation.

Dr. Barron, of St. Louis, exhibits his treatment of compound cavity in superior central incisor; uniting both approximal surfaces, extending across the cutting edge, and accompanied by the loss of the lower portion of the crown to the extent of one-third of its whole length. First, fills with upright cylinders, extending as far down as the enamel is sound, reserving a small point in one corner, where he commences the use of crystal gold; with this substance he builds down, and thus restores the tooth to its original form and size—gold supplying the place of the lost dentine.

Dr. Silvers, of St. Louis, takes cavity in grinding surface of molar. Prepares cavity same as Dr. Spalding—fills with rough pellets, thinks them more adhesive than cylinders, and more readily compressed. In condensing, opens clear down to bottom of cavity—thinks a wedge or cone, placed in the middle, would be liable to be driven out by an antagonizing tooth, when it strikes the sides of the plug—has never used cylinders, and thinks he never shall.

Dr. Sturgiss, of Quincy, takes a case of a dishing cavity, located in

one cusp of grinding surface of molar. Cuts small grooves in sides of cavity, and fills with foil in rolls, sometimes uses the fold.

Dr. Peebles, of St. Louis, heard from Dr. Hale last year about filling fangs with plaster of Paris—tried this substance in fangs of lower molars in the case of a poor patient—in one tooth found it difficult to introduce, in the other, was introduced easily—filled crowns with gold, successful so far.

Dr. Perrine, of St. Louis, gives a case of use of plaster in filling fang of lower bicuspid. After five months, tooth became troublesome—on removing gold filling, found the plaster soft; unfavorable result.

Dr. P. also describes a case of large cavity in superior cuspid, involving death of nerve and the loss of posterior portion of crown—lower cuspid, owing to loss of back teeth, striking into the cavity—filled fang with foil, then completes the operation by building up against the thin front wall of enamel, after Arthur's plan of using annealed gold. Feels more confident of success in the use of foil in this manner than in the use of crystal gold.

Dr. Hubbard, of Quincy, takes a central cavity in grinding surface of molar, with four diverging lines of decay. First opens central cavity with drill, then enlarges the diverging lines, fills first the lateral lines, then the posterior, then the central cavity, finishing with the anterior radiating line.

Thinks it not necessary to remove every portion of decayed matter from the bottom of the cavity, especially if in so doing, the nerve would be uncovered—thinks the formation of new osseous matter will occur in young persons, in the course of six or eight weeks. Sometimes uses gutta percha over exposed nerves—believes we destroy too many nerves, and often do so when it is not necessary. Does not succeed in more than one-half the cases in which he has practised filling fangs.

Dr. Porter, of Michigan, exhibits his treatment of cavity in approximal surface of superior incisor, accompanied by loss of corner on cutting edge—fills partly with foil, and partly with crystal gold—rolls foil into rope, then unrolls and rolls again, to produce increased roughness—uses instruments with serrated points, allows the foil in packing to rest against the adjoining tooth, builds down with crystal gold, to restore the broken corner to original shape.

Dr. Levett, of St. Louis, takes a case similar to the last. Uses the fold or strip, and builds out with foil, annealed and used in the manner recommended by Dr. Arthur, of Philadelphia.

Dr. Bull, of Lasalle, treats sensitive dentine with solution of gutta percha—after a few days removes gutta percha, and fills with foil twisted into a rope.

Dr. Taft, of the Ohio Dental College, remarked, When a case is presented, he takes into consideration the constitutional tendencies and temperament of the patient—also, the strength of the vital forces, the liability to irritation, and the probable influence of remedial treatment.

This diagnosis is made up from external indications, also by these forms an opinion as to the character of the teeth. These indications are found in the development and condition of the various tissues, the color and tone of the skin, etc.; thus we can know the general character of the teeth before a special examination is made. We cannot operate alike on all teeth. Some would be destroyed by the same operation that would save others, owing to constitutional differences. These differences are too frequently disregarded, even by those whom we consider good operators.

We will take, for description, a cavity of the anterior surface of superior molar. The decay occupies almost the entire approximal surface. The first step is the special examination, to ascertain the nature and extent of the decay, the form of the cavity, and the strength of the walls. Then separate. There are two methods of accomplishing this—by pressure, and by cutting. The latter only is applicable in this class of cases. He uses the chisel instead of the file in cutting—can cut more rapidly by this means, and with less annoyance to the patient. Smooths the cut surface with a fine file.

The next step is to remove all the decay. Though in some cases, where the nerve would be exposed, it may be admissible to permit a small portion of partially decomposed bone to remain for a covering, but in no case should we leave even the slightest portion of decaying bone about the orifice of the cavity, or even upon the walls. Then give the cavity such form as will certainly retain the filling. It is very seldom the case, that when the decay is removed, the cavity is of proper shape; and hence, the formation of the cavity constitutes another step.

The cervical wall of the cavity should be a little inclined inwards, the lateral and crown walls at about a right angle.

For drying the cavity, uses prepared cotton, sometimes blotting paper; after this, throw in a jet of warm air, drying the cavity to whiteness.

In filling either with crystal gold or foil in blocks, commence the

filling at the cervical wall of the cavity, filling down two-thirds to the crown wall, consolidating perfectly to the lateral walls. Then fill to the crown wall of the cavity, filling up to the portion first introduced, terminating the introduction of the gold somewhere near the center of the filling.

In the application of force for the consolidation of fillings, it should be a general rule to apply the pressure as nearly on a direct line with the axis of the tooth as possible. Consolidate the surface perfectly, and finish with the file, pumice, Scotch stone, and buff or burnish.

In these decays, the crown wall is often broken away, leaving the two lateral walls standing, with strong projections or angles. There are two methods of operating in such cases. First, to cut down these angles back as far as the crown wall is broken away. That makes the surface at the lateral borders diagonal with the axis of the tooth, and the surface of the filling will partake of the same inclination. And second, the angles, if firm, may be left standing, and the filling introduced and brought out flush with the angles; thus forming the filling with an approximal and a crown surface. The angle formed by the filling should not be too sharp.

On the subject of building out fillings, Dr. Allport said, that from some things that had been said, he feared there was some misapprehension as to his views on this point. He did not practice it generally, but would resort to it only occasionally; believes that more was being done in that way just at this time, than would be done a few years hence. If practitioners were not careful, they would ride this hobby too hard.

Dr. Spalding said he did not like the practice, excepting in very rare cases—would hardly resort to it at all in back teeth, and very rarely in front ones.

THURSDAY MORNING.—Subject: *The causes and treatment of diseased gums.*

Dr. Spalding said he would pass over, for the present, the first part of the question, relating to causes, and confine himself to that portion relating to treatment only. In the first place, he would, of course, carefully and thoroughly remove all accumulations of foreign matter, repeating the operation as often as might be necessary, at the same time also excising any excessive prurient growth of the gums. The next step would be the employment of such means as would serve to assist nature in restoring a healthful condition to the diseased parts. He had long ago laid aside the use of astringents in cases of this kind, and relied altogether upon the use of stimulants. In the local treat-

ment demanded in these cases, it had been his object to rouse up and stimulate the action of the secretory and absorbent vessels, and he had met with better success than formerly, when employing astringents. He relied chiefly upon the different alkalies, and would be guided in his selection mainly by the taste, choosing those which were found the least unpleasant. Directed the patient to make free use of the brush, using as firm a one as the gums would bear—considered the friction of the brush highly useful in effecting a cure.

Dr. Allport does not rely much on medicines. Carefully removes all accumulation, scarifies freely, and rubs with a soft brush to promote depletion—subsequently directs the use of Prof. Westcott's recipe, consisting of equal parts nitrate of potassa and carbonate of soda, dissolved in a strong decoction of sage, sweetened to improve the taste, to be used after each meal.

Dr. Dunham: Sometimes finds it necessary to remove teeth as well as tartar. Employs scarification and also excision. Sometimes uses nitrate of silver, but always avoids a resort to such active remedies, if possible. As a wash, relies mainly on tinc. myrrh, made with rectified whiskey instead of alcohol; also uses carbonate of soda and nitrate of potassa—knows of nothing as good as simple tinc. myrrh, which is astringent, stimulant and antiseptic.

Dr. Hale, Sen., said, the principal causes were neglect, want of cleanliness, and consequent accumulation of tartar. After the necessary cleaning, treats with astringent washes and powders, such as myrrh, tannin, etc. Where suppuration of the gum exists, finds the case difficult to treat with success; regards periostitis as the primary disease in these last cases, and the suppuration of the gums as secondary; thinks friction and cleanliness are much more important than the use of astringents in all cases, regarding the employment of friction as indispensable to a cure.

Dr. Blake considers tartar accumulations as a leading cause—carefully removes, then scarifies, and also uses artificial leeches as an additional means of depletion—uses tinc. myrrh, with the addition of a little creosote—thinks astringents valuable.

Dr. Phillips, of Mo.—Cleanses. Scarifies freely, to produce depletion, and sometimes employs astringents, not often.

Dr. Sturgiss—Thinks diseases of the gums hereditary—irregularity also a cause; uses myrrh, but does not generally find its use followed by a permanent cure.

Dr. Silvers mentioned a case in which he employed mechanical support

to retain the teeth in their places—treated with nut galls, sulph. ether, and creosote.

Dr. Levett, after cleaning and scarifying, uses borax and honey, also astringents—thinks disease of the gums hereditary, especially where there is a venereal taint.

Dr. Peebles—Is an inquirer. Has not yet satisfied himself in regard to his own treatment; has used many remedies recommended by others, but has not found them effectual. Has found long “gourd seed” teeth more subject to diseases of the gums and alveoli. Cannot cure such cases short of extraction.

Dr. Perrine—Has nothing new or additional to offer; has a case of necrosis of alveoli. Has failed with astringents, and now proposes to adopt the use of stimulants.

Dr. Hubbard—Nothing to add, the ground having been already gone over—relies very much upon depletion by scarification—has used astringents and alkalis—has met with success in the use of solution of nitrate of silver—meets with cases that he cannot manage—thinks nitrate of silver has a direct action on the mucous membranes.

Dr. Porter—Nothing to add; uses in extreme cases nitrate of silver; in ordinary cases, recommends use of soap, also uses astringents, and scarifies.

Dr. Branch, of Galena, uses both astringents and stimulants. If the teeth are of the long gourd-seed variety, thinks the leverage greater in mastication, such teeth having also openings between them near the gum. Food there accumulates, and by mechanical pressure on the gums, produces absorption and disease. Reports a case of removal of tumor from the gum by ligature, producing a cure. In ordinary cases, depends chiefly on friction from the use of the brush; directs the employment of the hard brush, to produce bleeding; objects to excision, preferring to wait the operation of nature, and in cases of suppuration of the margin of the gum, advises extraction of the teeth; for acute periostitis, prescribes spirits of nitre, saturated with calcined alum.

Dr. Taft remarked, There are cases that do not yield to any ordinary treatment. Such cases are usually influenced by both local and constitutional causes. When the latter exists, constitutional treatment is indicated, but when it is the result solely of local causes then local treatment only is indicated. This consists of excision occasionally, depletion, and counter-irritation by scarifying. The medicinal treatment consists of astringents, stimulants and tonics. When the vital tone is low, slight local causes will produce disease. In some

instances, the most heroic treatment is indicated—in others, touch lightly. Constitutional treatment may require the aid of a physician. He referred to a case. A lady, twenty-two years of age, good constitution. Found considerable constitutional disturbance and lassitude; gums much enlarged, covering roots and some sound crowns. The free margin of the gums presented a rounded mass of one-half to three-fourths of an inch in diameter. The patient used compound ext. of colocynth. Excised the enlarged portion with the bistoury, passing it entirely around the arch, at about the line of the gum margin in health. Removed all the roots and some of the teeth, and on the second day afterward, removes any of the excrescences that have been overlooked; used astringent wash two or three days, then used nitrate of silver in substance. The mouth entirely restored in five or six weeks. Prefers excision to waiting the slow process of absorption.

Dr. Forbes says there are three principal causes, local, constitutional and scrofulous. Cleanses thoroughly—is not particular to avoid laceration. Excises with pointed scissors in some cases. Prescribes calcined alum and pulv. cinnamon. Uses creosote, either pure or diluted, in periostitis; also uses calcined alum and creosote; uses tinct. myrrh in all cases.

Dr. Hale, Sen., treats common cases with powdered nut gall or tannin, followed by nitrate of silver in solution—generally successful in cases of children.

AFTERNOON SESSION.—(Miscellaneous discussion, not reported.)

FRIDAY MORNING.

Discussion on Report of Committee on Patents, &c.—Dr. Spalding objects to the phraseology of the report.

Dr. Allport is opposed to patenting anything beyond instruments and other articles of manufacture. If instruments, or materials on which a patent has been obtained, are thrown into the market and freely sold to any and all who desire to purchase, he has no objection to a patent—but he is strenuously opposed to the sale of office rights in any case whatever.

Dr. Branch offers a substitute, changing the phraseology of the pending resolution.

The whole report is re-committed, and the committee retire.

Report on Cheoplasty, by Dr. Taft, chairman, presented and adopted without debate.

Resolutions on patents are again reported, and discussion resumed.

Dr. Spalding was not prepared to oppose the *entire* principle of patenting, as seemed to be contemplated in the first resolutions reported

by the committee—did not feel willing to go to that extreme. The government had instituted the patent system for the purpose of protecting inventors in their rights. Men who had expended their time and money in perfecting improvements in the mechanic and other arts, could only in this way secure to themselves the results of their own labors and expenditures. He considered copy-righting as only a part of the same general system, extending protection to authors as well as inventors, and if instruments and other articles of manufacture could be sold in the unrestricted way in which books were, he had no objections to a patent. He was willing that inventors should exercise the same control over the manufacture of patented articles that authors did over the publication of copy-righted books, and that both inventors and authors should look wholly to the sale of their productions for remuneration for their labors. He agreed with the views held by Dr. Allport; indeed, Dr. A. had exactly expressed his mind on this subject. Neither did he approve the course taken by some, of shielding themselves under the name of others. If it was right for a professional man to hold any interest in, or control over a patent, it was not only right, but, in his opinion, far more honorable for him to take a frank, open and straight-forward course, and hold it in his own name. But when any man, belonging to a liberal profession, claimed the right of patenting any mode of practice, and proposed, directly or indirectly, to peddle out office or territorial rights, he, for one, would go as far as any body towards heaping upon such a custom all the censure which it merits at our hands. He had drawn a distinction in this matter of patents which he conceived to be the correct one, and he was glad that so many whose opinions he valued, were of the same way of thinking with himself.

Dr. Barron said that the second resolution offered by the committee qualified the first, and, as chairman of that committee, he was willing to so modify the first as to meet the views of the members. For himself, he was strongly opposed to the growing custom of resorting to patents, and if some check was not put upon it, it would soon be the case that a Dentist could not go into his office and commence any operation without first buying a patent instrument, and then purchasing the right to use it.

Dr. Branch is not opposed to the custom of patenting. Thinks if it is right to patent at all, it is right in one profession as well as another; thinks we should fix upon some rule for the guide of patentees or of inventors, and should say that the principle is either right or wrong.

Dr. Allport thinks the resolution before us, as it now stands, only

condemns the course pursued by some, and does not cover the whole principle of patenting; thinks that no member of a liberal profession has a right to first patent an instrument or material, and then patent its use. He alluded to the very excellent dental chair invented and patented by his friend, Dr. Perkins. When a man bought one of Dr. P.'s chairs, the right of use went with the chair; and, as in the case of a book, it might be sold and re-sold, and still the last owner had just as much right to its use as the first. The example of Dr. Perkins was worthy of all imitation. He had not only constructed the best chair ever yet made, but he had placed it within the reach of every Dentist, so that all might enjoy the benefits resulting from its use.

FRIDAY.—3, P. M.

* *Difficult Dentition.*—Dr. Spalding spoke of the importance of the subject under consideration; thought that a large per cent. of the mortality among infants could be fairly referred to this cause; thought physicians have not given the subject that careful attention to which it was entitled, owing, no doubt, to the wide range of subjects which necessarily come within the scope of medical practice. Said the subject fairly came within the province of the dentist, and earnestly hoped that the members here present would take up the matter in good earnest; was himself comparatively ignorant, but would like to hear from Dr. Taft, who has long studied the subject, and could, he believed, impart much important information.

Dr. Taft said there are various causes of difficult dentitions. In some cases there seems to be a want of assimilating powers; in other cases, an imperfect supply of the proper material. This is manifested by a deficiency in the development of the osseous structure, and sometimes extends to the muscular and other organic tissues also. When the deficiency is general, it falls within the province of the physician. This deficiency extends to the teeth, and affects them as well as other bony structures. Usually there is a deficiency of bone phosphate. To supply this, the administration of phosphate of lime has been resorted to, and with very marked success.

It may be given to the child, or to the mother while the child is nursing, or to both; this influences the eruption of the teeth, by causing a more rapid development. No difficulty arises from its exhibition; it is readily appropriated, but in different degrees. Have gone a little further back than this. A mother had three children, and in each case their primary teeth decayed very early; indeed, they seemed to be scarcely through the gums till they began to decay.

The mother used bone phosphate for four months previous to the birth of the child, and while the child was nursing. The child had firm, well organized teeth, that seem as though they will resist decay till the irruption of the permanent ones.

Related a case of the rapid restoration of a child sixteen months old, that was reduced to an extreme degree of emaciation and debility. The cause seemed to be difficult dentition. General treatment was continued much as before, and the administration of bone phosphate adopted at once. The child immediately began to improve, and in two months seemed to be entirely restored, cutting six teeth soon after beginning the use of the phosphate; gave child from two to six grs. per day in two portions; when administered to the mother, from six to fifteen grs. per day, in two portions.

Its use is not indicated when the fontanelle closes readily, and there is no apparent want of bone material.

PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

The meetings of the association continue to increase in interest, matter being nightly presented for consideration which, by the discussions invoked, can but result to the advancement of all concerned. The meeting for June was favored by Prof. Buckingham, with a paper of some considerable length on the various modes of working gold. The practical character of the Dr. is so well known that it is scarcely necessary to remark the nature of his paper. In it was discussed fully the philosophy of filling teeth, the different operations, together with the advantages and objections attendant upon each. Prof. Buckingham has little faith in the process known as welding, remarking in the course of his paper, that the employment of serrated instruments served to connect piece with piece of gold precisely as it effected the same cohesion between particles of paper, that this was the way, in this direction, that gold plugs were made, and the only way in which they might be made. The process proper of welding was then entered into by the Dr., iron being advanced as the single and only metal capable of this process, the objections to classing with it platinum being advanced in minutiae.

At the conclusion of Dr. Buckingham's paper, proper action being taken upon it, Dr. J. H. McQuillen addressed the association at some length, and reviewed, in detail, the features of the paper of the evening, quite agreeing with its positions, excepting in some few comparatively unimportant particulars.

Several very difficult operations being known to the gentlemen of the association, performed lately by Dr. McQuillen, under most disadvantageous circumstances, he was requested by Dr. Garretson to explain his success in what the gentleman termed sub-marine operations—two operations in particular being alluded to, in which had been built, even where other operations had failed, with amalgum, fillings of gold completely and spirally encircling two inferior cuspid teeth, and in which the patient—a dentist of Philadelphia—remarked, that numerous napkins had been used in the protecting process.

Dr. McQuillen, in reply, remarked that he had no particular relish for these sub-marine operations, certainly never courted them, but had found, by many experiments, that gold would work almost as easily and thoroughly in saliva as out of it—certain kinds of saliva, that free from admixture from certain ill-conditioned mucous. The Dr. entered into an interesting and somewhat lengthy consideration of the various pathological conditions influencing the saliva in its connection with dental operations. We sincerely hope he will give his views to the profession through the medium of its journals.

Dr. McQuillen directed attention to a filling in the mouth of a gentleman present, inserted by Prof. J. D. White, some ten years back, where the whole operation had been made under water, the salivary glands of the gentleman secreting so rapidly, that all attempts to keep the parts dry had proven useless.

Inquiries being made as to how an operation could be performed, where there existed a fatty condition of the saliva—a feature discussed by the Dr.—and the impossibility to preserve the dryness of the part for any length of time, the Dr. replied, that to secure adhesiveness under such circumstances, it would be found necessary, on the intrusion of the saliva, to re-dry the part, and before re-commencing the process of filling, to well wash the gold already inserted into the cavity with water, or, what would be found preferable, with ether or chloroform, remarking that the operation could then be proceeded with as before the intrusion of the saliva.

Dr. McQuillen also entered into a consideration of the effect produced upon the dentine by the minutæ of saliva always existing in cavities filled under the circumstances above alluded to, deeming that there existed certain conditions of the secretions, where the integrity of the filling would be entirely destroyed; an abnormal acidity, he remarked, in instance, would, he believed, permit of the renewal of the disease by the decomposing influence affecting the walls of the cavity sufficiently to admit of the permeation of the fluids of the mouth.

The gentleman taking his seat, Dr. Calvert spoke at some length on his experience with adhesive gold, remarking his uniform success with the material, and his unbounded confidence in the advisability of using it in this manner.

Dr. J. M. Harris following, remarked his attachment to cylinders; thought that nine of every ten of his fillings were thus made; would leave the question of their integrity to his fellow members; had been thinking, however, during the course of the evening, that while the views with which the society had been entertained, (and to the edification, he believed, of every gentleman present,) was of such practical bearing, yet it was strange that in all the researches made and being made, a material could not be discovered approximating more closely to the tooth substance; it had always seemed to him that gold was a too foreign material, and that, concealed among the undiscovered things, existed a material with which we might not only restore a diseased tooth to its natural condition of health, but also to its natural condition of appearance.

The remainder of the evening was occupied by different gentlemen, in the consideration of the advantages and disadvantages connected with the various modes of employing gold.

Previous to adjournment, the Secretary, Dr. Garretson, asked attention to a pathological feature, which, of late, he had been investigating, and which he desired to refer to certain members of the association, that he might claim their assistance by inquiries, he desired they should make, among their different patients. It was the relation to the health of the teeth of that particular order of papulæ known as *strophulus confertus*.

Dr. Garretson, affirming that children thus afflicted at the period of dentition, would be sure to have teeth of the most inferior description. The disease he describes as being a cross between *Impetigo* and *Erythema*, the papulæ being seated principally on the cheeks or forehead, and clustering closely.

The Dr. spent some ten minutes in the expression of views on the subject, but remarked, that as they were, so far, unsatisfactory to himself, he desired they might have no stress in the investigation which any of the members should be disposed to enter into, remarking further, that if, in continued consideration of the matter, its importance remained as strongly impressed upon his mind as at the present time, he would again present it to the attention of the association in a more practical form.

The association, we believe, now takes a recess until the third Tuesday in September, when, if we understood rightly, the discussion of the features of Prof. Buckingham's paper is to be renewed. G.

NON-VASCULARITY OF HUMAN DENTINE.

BY J. H. M'QUILLEN.

The absorption of the fangs of the deciduous, as well as the morbid conditions presented both by the deciduous and permanent teeth, evinces most conclusively that dentine is in a state of constant, though gradual, molecular change. It becomes, therefore, an interesting subject of inquiry to ascertain in what manner the materials inservient to the nutrition of that tissue circulates through its ultimate texture.

In a communication on "Sensitive Dentine," published in the *News Letter* for October, 1856, the writer expressed his convictions of the non-existence of blood-vessels in dentine. This conclusion was arrived at after examining with an excellent microscope, numerous specimens of young and old teeth, prepared by himself and others. In support of the position there assumed, he would now cite the views of the most eminent microscopists of the present time.

Mr. Owens observes, that "The tubes and cells contain, besides the granular earth, a colorless fluid, probably transudid plasma, or liquor sanguinis, and thus relate not only to the mechanical conditions of the tooth, but to the nutrition of the dentine."

"Dentine thus organized is *unvascular*. The teeth of most mammals and reptiles, and of a few fishes, present this modification of their main constituent."* In another part of the work he remarks, "With respect to the component structures of a tooth, in addition to those usually described and admitted, there are other substances entering into the composition of teeth, and presenting microscopic characters equally distinct both from ivory, enamel and cement, and from true bone, and as easily recognizable. Of these is the tissue there first defined, and which I have since called *osteo dentine*, from its combining the vascular concentric coated canals of the osseous tissue, with a development of the fine tubes resembling those of true dentine, but with stronger and less regular curvatures. This substance is found lining the pulp cavity of old teeth; and sometimes *forms the middle part of the grinding surface of much worn molars.*"†

* Owen's *Odontography*.—Introduction, p. iii.

† Owen's *Odontography*, p. 467.

Mr. Tomes says, "In the tooth of man, vascular canals are never numerous, and occur only in a few specimens. I have *seen eight or ten sections only* in which the *dentine is vascular*."* A few pages further on, he holds the following language: "All that seems necessary for the healthy existence of a tissue, is the proximity of a vascular current, more or less close to the individual elements, according to the character of the particular texture in question. But in tissues, where frequent interspaces for vascular currents would interfere with the functions, we find, in the absence of vessels, a special arrangement providing for the due nutrition of the part. In no instances are these arrangements more beautiful than in osseous and dental structures."†

Todd & Bowman observe, "We do not regard the tubuli as filled up by solid contents, but as possessing a truly hollow bore, designed to give passage to fluids."‡

Kolliker remarks, "Dentine containing Haversian canals, the so-called '*vaso dentine*,' of Owen, which exists in many animals, is rarely found in man, and I am only acquainted with one case, observed by Tomes, (l. c. q., p. 225,) in which the vascular canals were numerous; on the other hand, in the dentine, with irregular tubuli, which is formed in obliteration of the pulp cavity, we occasionally meet with scattered Haversian canals, and rounded cavities, like osseous lacunæ, constituting the so-called *osteo dentine* of Owen."§

Carpenter observes, "that the dentinal tubuli are far too minute to receive blood; but it may be surmised that, like the canaliculi of bone, they absorb matter from the vascular lining of the pulp cavity, which aids in the nutrition of the tooth."||

Taking into consideration the immense number of specimens that Tomes has had access to, (including his own collection, that of Carpenter's and the College of Surgeons,¶) it appears evident that the eight or ten sections *only* in which he found human dentine vascular, were abnormal cases.

As the vascularity of dentine appears to be a mooted point in this

* Tomes' Dental Physiology and Surgery, p. 49.

† Page 62.

‡ Physiological Anatomy, and Physiology of Man—Todd & Bowman, p. 538.

§ Kolliker's Microscopical Anatomy, p. 474.

|| Carpenter's Principles of Human Anatomy, p. 285.

¶ The largest private and public collection of microscopical preparations exist in Vienna, with Hyrtl, (injections;) in Utrecht, with Harting and Schroeder van der Kolk, (injections, sections, muscles, nerves;) in London, in the College of Surgeons, (animal and vegetable tissues of all kinds;) with Tomes, (sections of bones and teeth;) and with Carpenter, (hard tissues of the lower animals.) Kolliker's Microscopical Anatomy, Introduction, p. 33.

country, the writer has been careful in presenting the views of the authors quoted. Whilst he is too much a lover of science to desire that the opinions of any observer, however eminent, should be received without question, he thinks that the views of these writers are entitled to at least a careful consideration. The testimony of these eminent and careful observers, in addition to his own investigations, convinces him, that human dentine is unvascular.

Though the process of nutrition, which includes the waste and repair of the various tissues, is not an object of microscopic investigation, yet, by the aid of the microscope, it has been clearly demonstrated, that nutrition is invariably *extra-vascular*. In other words, the fluid or plasmatic parts of the blood transude through the parieties of the capillaries, and is then assimilated by the tissues. Notwithstanding the fact that the capillaries are possessed of distinct membranous parieties, their permeability removes all impediment to the nutritive process.

As the calibre of the capillaries in man vary from about the 1-3,700 to the 1-1,850 of an inch,* it is impossible for them to be present in normal dentine, the diameter of whose tubuli is the 1-10,000 of an inch. The abnormal cases in which vessels have been observed, are the exceptions that proves the rule.

When the admirable arrangement of the dentinal tubuli is borne in remembrance, the necessity of vessels for the conveyance of the nutrient materials through the tissues is by no means apparent; but, on the contrary, seems a work of supererogation.

A more perfect system for the due nutrition of the tissues, can hardly be conceived, than that presented by dentine. Opening as the tubuli do, upon the parieties of a cavity that contains a highly vascular structure, the capillary attraction resident in the tubes is sufficient to absorb the plasma present in the capillary vessels of the pulp; and the proximity of the tubuli to each other, their division, subdivision and anastomosis ensures permeation of every part of the tissue by the fluid.

Even without the aid of a microscope, it is not difficult to demonstrate that the theory of the vascularity of human dentine is untenable. If vessels invariably passed from the pulp into the tubuli, the extirpation of that tissue entire would be impossible. For Gulliver was not more effectually secured, when every hair of his head had been fastened by the Lilliputians, than the pulp would be, if an arrangement such as that described above really existed. And yet that operation is by no means a difficult or an unusual one. In preparing specimens of the

* Muller's Elements of Physiology, p. 218.

pulp for the microscope, the usual method pursued is to break the tooth in a vice; under these circumstances the membrane rarely presents an adhesion of any moment, but, on the contrary, separates with facility from the broken fragments. Again, it is reasonable to suppose, that if such a connection really existed, that it should be firmer and more marked in very young teeth; for here the tubuli are larger, and the capillaries would, of course, maintain the same ratio. The writer's observations, however, does not confirm this, for, in examining the pulps of the incisors of calves, about four weeks old, he found no attachment existing between the pulps and the parieties of the cavities, except at the apex, where the fangs were being completed. Here the adhesion was quite firm, but at every other point there was a simple apposition of parts only, and the pulps could be as readily raised up with the tenaculum, as a chestnut can be removed from its hull. These teeth were not exposed to the shock incident upon crushing with the vice, but were divided longitudinally with a fine saw.

It appears, indeed, a wise provision in the human economy that dentine is unvascular. Had it been more highly organized, the variations of temperature to which the teeth are subjected, would not only have been a constant source of annoyance and pain, but would also have been calculated (even where the enamel remained intact,) to induce inflammation of the tissue, the establishment of which the writer cannot conceive possible in normal dentine. In addition to this, idiopathic inflammation of the pulp, a disease of so rare an occurrence, that he can recall but one case that came under his notice, would be constantly presenting itself.

Recapitulatory.—The comparative size of the dentinal tubuli, 1-10,000 of an inch, with the capillary vessels 1-3,700 to 1-1,850 of an inch—the facility with which the pulp can be removed from its cavity, whether preparatory to filling, or for microscopical purposes, the unsatisfactory evidence of the establishment of inflammation in dentine, and the very rare occurrence of idiopathic inflammation of the pulp, appears to warrant the conclusion that dentine is unvascular.

For the Dental News Letter.

OBITUARY.

Charles C. Allen, M. D., whose death has been so recently announced to us, was a native of Medway, Mass. In early life he made choice of the medical profession, and pursued his studies under the direction of the venerable Dr. Brown, and, after having received his degree from the Medical College at Pittsfield, he assisted him in his practice in his native town for a few years.

Afterwards, having turned his attention particularly to the dental department of the science, and received instruction from Dr. Wheat of New Haven, he commenced the practice of Dentistry in Norwich, Conn., from which place he removed to this city (N. Y.) in 1837, where, after a successful practice of twenty years, during which he had endeared himself to a large circle of friends and patients, he departed this life May 30th, 1857, "hoping for a better country, even an heavenly."

The best of medical attention, journeyings by sea and by land, all that devoted affection could suggest, failed to prolong his stay. He was kindly permitted to return home, and having borne his protracted illness and extreme sufferings with christian fortitude, he calmly resigned himself to that Saviour in whom alone he trusted, and died without a struggle.

Dr. Allen leaves a wife and infant daughter to mourn his loss. An aged father also still survives his son, who, with a band of brothers and sisters, whom his acts of fraternal affection had drawn closely to him, feel deeply the loss they have sustained by this event.

The strict integrity of his character, and his manly independence of thought and expression, have gained for him the confidence and respect of all with whom he was associated.

The *Dental Recorder*, of which, for several years, he was the editor, was conducted by him with distinguished ability and great liberality of sentiment, ever seeking to lay before his readers that which would improve and elevate, and endeavoring faithfully and fearlessly to expose error and empiricism wherever discovered.

Dr. Allen, was appointed, by one of the Medical Colleges of this City, to deliver a course of lectures on Dental Science, which post he filled to the entire satisfaction of all connected with the Institution.

Having known Dr. Allen from early youth, and having been for several years connected with him in business, the writer of this article feels that, by his death, he has lost a valued friend, and the dental profession an honorable member.

H.

SINGULAR ACCIDENT.—A few nights ago, a gentleman in a neighboring town was aroused from sleep, and found himself laboring under a strange sense of suffocation and difficulty of breathing. Medical assistance being summoned, it was ascertained that he had swallowed his set of false teeth, which became fixed in the throat, and almost choked him. The efforts to relieve him proved unavailing, until a surgeon from Salem was called in, who, after laboring for several hours, succeeded in seizing upon the intruders, and removing them without injury to the patient, who had a narrow escape from death.—*Salem Register*.

THE DENTAL NEWS LETTER.

JULY, 1857.

PLUGGING TEETH.

We believe that the severe tests to which this operation has been subjected for the last few years, by some of our best operators, has not entirely settled the question yet. The discrepancy that exists between some of the best operators, with regard to the form and manner of using material, renders it extremely difficult for one less experienced to form a satisfactory opinion or conclusion as to what is his best duty to his patient. The object of these remarks is an endeavor to give a little encouragement to the latter class of operators, and not as taking sides for or against any one engaged in the discussion, or as attacking any one's method or practice. Gold was used in the form of foil for many years without exciting the least suspicion that it was not the only form that was at all suited to the dentist's wants, and the first discussion that disturbed the subject was in relation to the thickness of the leaf employed, to use it in the form of narrow strips, folded, in pellets, or in the rope or coil, was regarded as altogether due to the fancy of the operator, and not an essential difference in the ultimate success of a plug. Great density of a plug was aimed at by all. For a while great thickness of the leaf was regarded as necessary to the best results in plugging, such, for instance, rising from what had long been in use, from No. 4 to 8, up to No. 30 or 50. As the leaf increased in thickness, the pointedness or sharpness of the instrument increased, and as the thinness of the leaf increased, the bluntness of the instrument increased. Thus it gives rise to many difficulties in changing from the one to the other. This difficulty, however, gave way to an entirely new form of gold, such as crystalline gold, sponge gold, etc. This struggled for some time for success, and engaged the majority of all classes in the profession in its discussion and use, and seemed for awhile to obtain advantage over the old-fashioned foil, but the ponderous wheel of time has left but a trace of its existence. The profession rapidly settled back to the use of foil, which had been for a while neglected as a mere expiring remnant of old times, but still the discussions did not cease in regard to the best method of using foil, but, like many other discussions, one set of operators regard opinions and their notions above direct experiment. The condensation of a plug is the most important matter in the operation, whether it be of light

or heavy leaf, and to obtain this end, some suppose that what is now termed "annealed gold," "adhesive foil," etc., is best suited to obtain such results. When a plug is inserted in a tooth in the mouth, it would seem to be a matter of impossibility to tell which was the most dense, as the relative size of the cavities cannot with accuracy be determined, and of course the density of the gold is equally uncertain, although the resistance of the one may be greater than the other, and the understanding of the operator may be in favor of the one of the least density. A material which becomes hard too soon under the instrument, produces a false impression on the mind of the operator, which is in accordance with experiments recently made, out of the mouth.

When a relative difference can, with a degree of accuracy, be determined upon, it seems to be unfavorable to adhesive foil. Direct experiment has proven, beyond a doubt, that the same pressure will produce a greater degree of density when foil No. 4 is used, than 6 or 8, and so on; but it requires a longer time to condense it than No. 6 or 8. We prefer No. 6, where direct and powerful pressure can be made, such as in crown cavities, and No. 4 in lateral cavities. As far as our experience goes, and as much as we can learn by the operations of others whose work comes under our observation, the foil gold, not adhesive, carefully prepared, and fresh from the manufacturer, is the best suited to our wants, for reasons which we do not intend to discuss here, as they might be construed as having direct application to those holding different opinions. We use gold foil in the form of the coil or rope, and cylinders, after Dr. Clark's method. We had the pleasure, within the last week, of seeing a plug in the crown surface of an inferior molar, large cavity, which had been inserted by an English dentist, in the City of New York, thirty-five years ago. It was foil, as we use it, according to the opinion of the patient, and was, to all appearances, as perfect as the day it had been done. We also extracted a front tooth for looseness in the gum, which had been plugged by the distinguished Hudson, of our city, forty years ago, and which plug is still as solid as possible. Surely, this is some encouragement to the young man who is seeking to emulate the great masters, who have been called from among us. To pursue the course adopted by them is no doubtful experiment or expedient. Now, in contrast, we removed the remaining portions of two plugs, as they were partly out, from the approximal surfaces of the first and second superior molars, which had only been in for three months. They had been done with adhesive gold, in the form of pellets, and by an operator of twenty-five years practice, and who is distinguished for fine work in plugging. J. D. W.

THE DENTAL MOVEMENT IN ENGLAND.

We have watched with considerable interest the progress of this movement, and have gathered all the information we could, from the various sources open to us, including the *British Journal of Dental Science*, some of the medical periodicals of England, and full and able reports of the dental meetings given in the secular press, which friends abroad have been kind enough to send us, and from the *Quarterly Journal of Dental Science*; and as such a movement must necessarily interest the whole profession, in our own country, as well as at home, we have thought a brief relation of the object and aims of those engaged in it, and the degree of progress made, would prove acceptable to our readers.

It appears, that at a preliminary meeting, or meetings, of the profession in London, the establishment of a dental college on a similar basis to those now existing in the United States, was determined upon, but, unfortunately, this project did not meet the views of all, though of a majority of the profession, and, subsequently, those opposed formed what they term the "Odontological Society," with which, Messrs. Tomes, A. Rogers, S. Cartwright, jr., and others, are connected; while, among the friends of the college, we find Robinson, Rymer, Lintott, Perkins, Hill, Matthews, and a host of others.

The gentlemen composing the "Odontological Society" contend, it would seem, that a dental school should be attached to the Royal College of Surgeons, and memorialized the council of the college, praying for a special examination in dental surgery, as in midwifery, thus arguing, by implication, at least, if not directly, that dentistry was incapable of standing alone, or of there being sufficient intelligence, ability, or substance in those comprising the profession, to teach what is considered necessary for a practitioner to know, and that, therefore, it was absolutely necessary to secure the fostering care and protection, and the endorsement of the "*Royal College of Surgeons*." With this view, the medical press of England, who, by the way, have manifested considerable interest in the movement, with a few exceptions, coincide. But those composing the "College of Dentists," think differently, and we here quote from the President's inaugural address, which we hope to find room for entire.

"It appears to me that ours is not so different from every other profession, that we do not possess within our own body sufficient knowledge of the theory and practice of our art to enable us to educate and examine our own pupils as dentists, without having recourse to a college whose province it is to grant diplomas to pure surgeons only. In my own opinion, we, the dentists of England, can ourselves best carry

out the great objects which all legitimate members of the profession have in view; and these I may in a very few words sum up. They are to raise our status, to give professional skill its rightful pre-eminence, and to crush that charlatanism which has in too many instances succeeded in preying upon the public health and purse, under cover of a pretended knowledge of the theory and practice of dentistry. (Cheers.) Unquestionably, the dental art has progressed in the United States. This may, in some small degree, be attributed to the energy of character for which Brother Jonathan is so renowned, but it must principally be attributed to that absence of small jealousies and individious distinctions with reference to less fortunate brother-practitioners, (hear,) which allows of a free communication of ideas among the members of the profession, and which has brought to a successful accomplishment the work of establishing associations for the protection and furtherance of the common interests.

Now, these, to our mind, are sound views, and as intimated, are precisely just such as the great mass of the profession here entertain, and to the influence of which, the rapid advancement of the profession in this country is attributable; and believing, as we firmly do, that they have the material within themselves, and an unquestioned right to use it for the honorable purpose of elevating the professional standard, and of increasing their usefulness, independent of the "Royal College of Surgeons," or any other institution, we could not do otherwise than commend and encourage the movement, and urge upon the members of the profession in England to give it their aid and support. The movement, we have every reason to believe, is a popular one, and therefore encouraging.

It cannot be a matter of surprise that we should sympathize with those engaged in the establishment of a dental college in England, having plainly seen the good resulting from similar institutions in our own country. The course of lectures now being delivered, and several of which we find published in the first number of the *Quarterly Journal of Dental Science*, (the first number of which is just received,) are in a certain sense introductory only to a fuller course upon most of the subjects necessary to a complete course.

The Odontological Society are in the meantime doing good service, by monthly meetings, in the way of discussions and intelligent essays upon the various topics connected with the profession.

We may mention here, that each have their respective organs. Those favorable to a connection with the "Royal College of Surgeons," in the *British Journal of Dental Science*, and the independent college party, in the *Quarterly Journal of Dental Science*.

We sincerely hope that all differences may be harmonized, and the profession, as a body, act with unanimity on the great subject of dental education.

J. R. M'C.

The Quarterly Journal of Dental Science, No. 1. April, 1857: London.—This is the first issue of a very handsome, well-filled Quarterly of ninety-six pages, edited, we believe, by Dr. James Robinson, a dental practitioner of note in London, and quite well known on this side the water.

It opens with an "Address," stating the importance of the present period in the history of Dental Science, in reference, especially, to the progressive movement recently brought about in England, on the subject of Dental Education, and the necessity for placing the educated and competent dentist above the standing and competition of the quack and charlatan, and says, that to assist in such an enterprise "is the object for which the *Quarterly Journal of Dental Science* has been established." And further, "we hold ourselves independent of all sections or cliques. Our ambition is to become the organ of the dentists of England," etc. And after a careful reading of the number, we cannot but think that the enterprise has been well begun in this issue, and that it must prove an invaluable auxiliary in the good work of dental reform, so hopefully and enthusiastically begun in England. It is replete with instructive papers, considering which, and the object sought in its publication, must commend it to every lover and intelligent practitioner of dental science. We wish it abundant success, and expect to profit much from its successive issues. J. R. M'C.

British Journal of Dental Science.—This is a monthly of some twenty-eight pages, published by Mr. John Churchill, London, and edited, we believe, (though there is no announcement to that effect,) by Mr. John Jones, of London, a gentleman well known in our country as the author of an able work on "Dental Physiology."

This periodical evinces great ability in its management, and in the literary character and intelligence of its correspondents, and, consequently, has strong claims upon the profession in Great Britain for encouragement and support. We wish it all possible success.

J. R. M'C.

American Dental Convention.—We would have our readers remember, that the coming meeting of the Convention will be held in Boston, August 1st, commencing at 12 o'clock, M.

We are fully persuaded that much good must result from these annual meetings, and therefore would say to all, let no trifling matter keep you away. We hope to see a full representation from every State.

J. R. M'C.

See cover for various notices and advertisements of interest.

A Treatise on the use of Adhesive Foil.—A work from the pen of Prof. Arthur, bearing this title, will be issued from the press, we are informed, early in July.

The author is the originator, we believe, of this method of preparing and using foil, and has been identified with it, as our pages will testify, for some years; and having devoted much attention to it, is, therefore, peculiarly fitted for the preparation of such a work; and as the subject has become so universal in interest, a large demand for the book may be safely anticipated.

J. R. M'C.

Practice for Sale.—On cover will be found an advertisement offering a Dental Practice for sale, to which we desire to call attention as interesting those especially who desire a change of location, or those about entering the profession.

J. R. M'C.

L' Art Dentaire.—We are in regular receipt of this monthly, published in Paris, by Drs. Fowler and Preterre, and for which they have our thanks. We hope to give extracts from it, as opportunity may occur.

J. R. M'C.

It is with great pleasure we publish the following able address, and which, we are sure, will be read with much interest.—ED. DENTAL NEWS LETTER.

INAUGURAL ADDRESS.

BY JAMES ROBINSON.

Gentlemen—In electing me the first President of the College of Dentists of England, you have conferred upon me the highest and most distinguished honor it was in your power to bestow. The responsibility attached to the office is, indeed, great; but I cheerfully accept it, because, limited though my individual abilities are, I feel the fullest confidence that, acting with your talented vice-presidents and council and secretaries, I shall be able to do good service in the promotion of the all-important object which our profession has determined to achieve. (Cheers.)

Gentlemen, at this, the inaugural meeting of the members of the College of Dentists, permit me to congratulate you upon the fact that all our proceedings have been public (hear, hear); that the movement in which we are engaged has at no period been sectional; that the entire profession was invited to join it before your council was formed, much less invested with power, and that, therefore, the gentlemen whom you have chosen to conduct the affairs of your college during the first year of its existence, are in their official capacity the elected representatives of the dentists of England. (Cheers.) From the moment of our starting up to the present, we have had the advantage of free and open discussion. In open assembly the general laws for the regulation of your body were passed, and your council, secretaries,

and other officers elected. Thus have you disarmed suspicion, and day by day gained fresh adherence to your intelligible, and, let me add, incontrovertible principles. Some few of our brother-practitioners may differ in opinion with the great body of the profession, but I have reason to believe that we have the good-will even of dissentients. (Hear, hear.) At all events, we will endeavor to deserve it. (Cheers.)

No one has attempted to deny that the position of our profession—whether in its relation to the other branches of the healing art, or the public generally, or as affecting our own status—was anything but satisfactory. Were it necessary to adduce proof of this, we have it in the large number of practitioners who have sent in their adhesion to the laws which are to regulate our practice, and bind together the members of our college. Those adhesions show the anxiety of the dentists of this country to attach themselves to an institution based, as this is, on sound and liberal principles, namely, self-government and the education of our own members. (Hear, hear.) We have the highest respect for the College of Physicians, and an equal respect for the College of Surgeons; but we think that dentists can be best educated by a College of Dentists, and, at the same time, that the prescribed course of independent instruction will be sure to elevate our profession, intellectually and socially. A few months since, and we were not a recognized professional community. We cannot much wonder at this when we consider that we were without a head, without a governing body, without laws to guide our practice; but already things have so changed that our claims to rank with the other branches of the medical profession are universally acknowledged. This, gentlemen, is to be ascribed to the movement on which we have entered, and to the publicity of all our preparatory proceedings. (Cheers.) The press has put forward our claims to be recognized as zealous cultivators of our art, and therefore entitled to that rank which public opinion has conceded to us.

Gentlemen, although requested by the council to prepare an address to the members of the College, it is not my intention to trespass upon your patience by giving you an elaborate history of dental science; but I will, with your kind permission, concisely sketch the progress of the dental art, with the view of placing before you our position as a co-ordinate branch of the healing art.

To do this it is not necessary to determine the exact date at which the practice of medicine was first known. Like many other arts, its origin is involved in considerable obscurity; but this we know, that at a very early age, indeed, the power to heal the sick, mitigate the pangs of suffering humanity, and stand between disease and death, was esteemed to be a God-like attribute. Much has been said, and more written, respecting the antiquity of medicine. Now, I claim precisely the same antiquity for the dental art. The ancients, who inclined to mythological rather than to natural causes, affirmed the science of medicine to be a divine emanation, and impersonated it, first in Apollo, and next in Esculapius. Thus its early history is mixed up with mythology and poetry. Although it is impossible to imagine a state of primitive society so happy as to be free from pain and disease, yet we find that, in proportion as people advanced towards civili-

zation, and abandoned their more simple habits of living for idleness and luxury, so did disease in its various forms call into requisition the skill of the physician. Those same habits of refinement and luxury, and consequent attention to personal appearance, must have rendered the practice of the dental art one of considerable importance, even at a very early period of the world's history. According to Herodotus, there was a subdivision of medical science; and no practitioner was allowed to practise any but his own peculiar branch. Thus some were oculists; others attended solely to diseases of the head; others, again, to those of the teeth.

It is not, however, till the time of Hippocrates, that we meet with any distinct notices of the diseases of the teeth. This appears the more extraordinary, as the significance of these organs, to say nothing of their useful or ornamental functions, was regarded by the Ancient Egyptians in a very remarkable manner. One of their most severe and degrading punishments consisted in the abstraction of a front tooth. There can therefore be, I think, little doubt that the manufacture of artificial teeth and other branches of the dental art were practised at a much earlier date than that of which we have the first mention in history. The loss of the front tooth, whether by disease or otherwise, would, during the existence of that Egyptian punishment, have given rise to unpleasant suspicions; and it may be presumed that every exertion would have been made to supply the deficiency. Belzoni and others discovered rudely manufactured teeth in the sarcophagi of the Egyptians. Again, as regards the use of gold leaf, Sir Gardiner Wilkinson observes, as a singular fact, that the Egyptians stopped teeth with gold—the method of stopping not very long practised in Europe. Proof of this has been obtained by the examination of some mummies from Thebes. We have historical evidence that the general appearance of the teeth, and their diseases, attracted considerable attention among the Greeks and Romans. The wearing of artificial teeth formed the subject of satire for some of the poets.

I could even, if necessary enumerate many other circumstances, to show that dentistry engaged as large a share of the attention of the ancients as did any other branch of the healing art—a circumstance to be attributed to that subdivision of medical practice to which I have before referred. Hippocrates and Galen mention sundry electuaries for beautifying the teeth, but describe nothing that may be called the proper art and science of dentistry. Albucases, an Arabian physician, who lived in the early part of the eleventh century, wrote on diseases of the teeth, and gave drawings of a number of instruments then in use for extracting, scraping, and other dental operations. He, moreover, gives instructions as to how teeth should be extracted. He directs that, if hollow, they should be stopped with cotton; refers to filing teeth, and fastening loose ones with gold thread. Aetius details a variety of applications for removing teeth without an operation; and it is worthy of observation that one of these applications actually contains red arsenic. This substance, as you are all aware, was introduced into our practice only a few years ago as an escharotic, for destroying the dental pulp previously to stopping.

“We think our fathers fools—so wise we grow!
Our wiser sons, no doubt, will think us so.”

(A laugh.) The red arsenic was supposed to be a modern discovery ; but it appears to have been very well known to some of those old gentlemen whom we, in our wisdom, are sometimes disposed to think very little of. However, giving the ancients all the credit to which they are entitled, it is not at all extraordinary that some of their opinions should be useless for our purposes. They had not the advantage of that mighty power, the microscope ; at least, no mention is made of microscopic investigations in those times to which I have been alluding. It is somewhat difficult to appreciate the observations of Hippocrates, who describes the teeth as glutinous extracts, from which the fatty matter has been burnt out by heat, and who affirms that they are harder than the other bones, because they have no heat in them. Aristotle, who has some excellent observations respecting the teeth of man and animals, declares them to be the only bones which grow through the whole of life ; observing that if they did not they would soon be worn away by attrition. He adds that the growth is manifested in those teeth which have lost their corresponding opposites in the other jaw, referring, of course, to the elongation of teeth arising from the want of opposing force.

By these few observations from ancient authorities, I think I have clearly shown the antiquity of our calling, the value and importance of the teeth as adjuncts to health and appearance, and the attention bestowed upon them at the earliest period of medical history. I shall, however, proceed to bring my observations somewhat nearer to our own time.

At the end of the sixteenth century, the dental art began to receive that peculiar attention to which, from its importance, difficulty, and general usefulness, it was eminently entitled. About that time there were no less than thirty-eight treatises published on the subject, and although their usefulness has been greatly diminished by discoveries since made, still they are highly interesting as evidence that dental surgery was in the sixteenth century considered of very great importance, and that time and experience only were required to raise it to its proper station in medical art. The first attempt to classify diseases of the teeth, was in the eighteenth century, made by Fouchard, who had justly been denominated the father of dental science. Previously to his time, the practitioners appear to have merely considered the teeth in their mechanical arrangement taking little or no account of them as complex organic structures, entering, by their own vitality, into the formation of the living body. M. Fouchard has not only the merit of directing attention to the construction and separate treatment of the teeth, but he also pointed out the indications which, in common with the adjacent parts, they furnish of the general state of health. It was unquestionably the most important advancement in dental science to demonstrate that the teeth afford an indication, not merely of the apparent, but also of the innate and fundamental constitution of individuals. It was, however, only after thirty-six years of close study, that Haller published, in 1747, his remarkable work on physiological and pathological science, the results of actual observation of the laws that govern the growth and decay of living bodies. In the meantime, rapid and valuable improvements were being made in the mechanical department of our

profession. So much had the subject grown in consideration, that by the end of the eighteenth century no less than one hundred and fifty-eight works had been published on the subject, including those of Malpighi, Purkinge, Retzius, Müller, &c. The first work that appeared in English, in a popular form, was by Berdmore, and was published in 1770. In 1772 the great John Hunter did not consider it derogatory to his position and reputation to give the profession the result of his dental investigations (cheers) in his celebrated work on the "Natural History of the Teeth." This was followed by the inaugural dissertation on the "Structure of the Teeth of Man and Animals," by Robert Blake, in 1798. Time will not permit me on this occasion to enumerate the various valuable contributions to dental science that have since been published; but I may, without wishing to lessen the merits of other gentlemen, mention the names of Fox, Bell, Goodsir, Nasmyth, Tomes, (cheers,) Professor Owen, as those of men who have become pre-eminently identified with our profession, and who stand pre-eminent as physiologists and pathologists. (Cheers.)

I may also direct your attention to some of our transatlantic brethren, who have likewise done much in the walks of dental physiology and pathology, and dental mechanism. And here I would ask you to bear in mind that the dentists of the United States have for some years held, as a body, a very different status to that occupied by the dentists of this country; but what is still more worthy of your remembrance is this (for us, hopeful) fact—that those who first attempted to found a College of Dentists in America had to encounter precisely the same amount of difficulty as that which presented itself to the gentlemen who first commenced our present undertaking. Yet, despite of all these obstacles, educational colleges for teaching dental science, both surgical and mechanical, have been firmly established in America—established, be it understood, in entire independence of any College of Physicians or Surgeons. (Cheers.) These dental colleges have not only an independent curriculum of special study, but connected with them are dental hospitals and dispensaries, which are generally attached to the colleges. The pupils are systematically taught every branch of the dental art, by a course of study that embraces dental anatomy, physiology, special pathology, therapeutics, chemistry and metallurgy, the principles and practice of dental surgery, operative dentistry, and dental mechanism. Having gone through the prescribed course of study, the pupils are examined by the professors in each department, and if the examination be passed in a satisfactory manner, a college diploma is granted, which authorizes the holder to assume the title of "Doctor of Dental Surgery."

A vast deal has been said about our wishing to adopt the *modus operandi* of the dentists of the United States—that which I have just briefly described. Now, gentlemen, I confess my inability to perceive how we lower our dignity, either individually or collectively, by endeavoring to form an institution similar to those which have not only fulfilled the object for which they were more immediately designed, but have raised the position of the dental profession generally. (Hear, hear.) It appears to me that ours is not so different from every other profession, that we do not possess within our own body sufficient knowledge of the theory and practice of our art to enable us to educate and examine

our own pupils as dentists, without having recourse to a college whose province it is to grant diplomas to pure surgeons only. In my own opinion, we, the dentists of England, can ourselves best carry out the great objects which all legitimate members of the profession have in view; and these I may in a very few words sum up. They are to raise our status, to give professional skill its rightful pre-eminence, and to crush that charlatanism which has in too many instances succeeded in preying upon the public health and purse, under cover of a pretended knowledge of the theory and practice of dentistry. (Cheers.) Unquestionably the dental art has progressed in the United States. This may, in some small degree, be attributable to the energy of character for which Brother Jonathan is so renowned, but it must principally be attributed to that absence of small jealousies and invidious distinctions with reference to less fortunate brother-practitioners (hear), which allows of a free communication of ideas among the members of the profession, and which has brought to a successful accomplishment the work of establishing associations for the protection and furtherance of the common interests. The present movement arose from a conviction in the minds of many dental practitioners, that the time had arrived when the study of our science should be put upon the footing which ought to be occupied by a study that had engaged the attention of Hippocrates five hundred years before the Christian era, and has ever since found numerous advocates, including the modern Hippocrates, the renowned John Hunter. (Cheers.) When the movement was originated, we really had not the *locus standi* of a recognized profession; neither had we any common bond to link us together for the advancement of the dental art. Each member of the profession did the best he could to further his own ends, and viewed the exertions of his brotherhood through a contracted medium, if not with the jealous feelings of envious rivalry. But what a change has already been effected! What a noble spirit of liberality towards each other now characterizes our meetings! We no longer fear the wholesome competition that is sure to arise from the elevation of our profession. Liberal fundamental laws have been laid down, and a liberal interpretation has been given to those laws, in order that no dentist, really qualified and willing to uphold the respectability and dignity of his profession, may be excluded. There have been no nice lines of demarcation, no paltry distinctions; hence it is that our advance has been rapid, and that we have obtained the support of the great body of the profession.

I fear that I have trespassed somewhat on your kind attention; but I feel that it would be unseemly in me to conclude my inaugural address without, in your name and in my own, paying the slight tribute of acknowledgment to the gentlemen who were the promoters of this great undertaking, (loud cheers,)—Messrs. Rymer, Hill, Perkins, Matthews, and the provisional committee generally. I offer them my own, and I think I may add your sincere thanks, for their indefatigable exertions, and for the zealous and judicious manner in which they brought together so large a number of our hitherto divided profession, and thus formed the nucleus of the present society. To the members and associates I would express a hope that they will one and all prepare interesting papers on professional matters, so that we may be all benefitted, enlightened, and improved by associating together. (Cheers.) The

gentlemen who have so kindly consented to deliver before us the preliminary course of lectures for the present session, I thank most sincerely. I earnestly commend these lectures to the members, associates, and pupils, as being in every way worthy of their attentive study. If diligently attended to from the commencement, they will be found to form a very solid foundation for those studies which are to follow, and which are intended to give such an elevation to our professional character as shall command for the diploma of the College of Dentists of England the respect of this and every other country wherein dental science is practised. (Much cheering.)—*Brit. Jour. Dent. Science.*

THE COLLEGE OF DENTISTS OF ENGLAND; ITS ORIGIN AND DEVELOPMENT.

In commencing the record of the reformatory movement in the dental profession, bearing the above title, it is both natural and pleasant to revert to its real origin, and notice the elements from which it sprung—to trace backwards, step by step, the progress of the scheme, which, within a few months, has grown so steadily, and at the same time so firmly into a definite form.

If we look at the College of Dentists of England, primarily, a recognized institution for the advancement of dental science and art,—and secondarily, and as a matter of sequence, a guarantee to the too long plundered public, we see a council, with its presidents, vice-presidents, treasurer, and secretaries, the necessary office-bearers to provide for its efficient working, a long list of members, a complete set of lectures for the first session, and the nucleus of a museum and library; in all, a goodly array, with a certain solidity of purpose about it, which bids fair to stand the test of divided opinions as to its capacities. This we are compelled to acknowledge, while knowing the materials, that such energetic pioneers will have to clear the way.

A short time since, and this substantial fabric was to be comprehended in the persons of some eighteen practitioners; who, under the name of provisional committee men, were content to labor at the oar, in order to bring about the best solution of difficulties which had met them, in their endeavors to carry out certain duties entrusted to them.

Another step backwards, and the interest of the undertaking was embodied in about half a dozen gentlemen, who had met to cogitate over the best manner of conducting the first public meeting of the profession then in view, and to decide upon the method to be employed in bringing about the much-desired end.

One more step to the rear, and we find the determination to arouse the apathy of the profession, by convening an open meeting, engendered in the mind of a young practitioner, residing away from the great theatre wherein the piece was to be performed, but engendered, nevertheless, with a full persuasion, that perseverance would prevail.

Thus we prove that, as in many other movements of a similar nature and design, one person simply deserves the credit of originating a scheme, the benefit of which will soon be felt in many directions. To Mr. Samuel Lee Rymer, of Croydon, then, is due the commendation of first *practically* introducing the idea of forming a dental college in

London. It is not asserted that Mr. Rymer first thought such a thing possible: as doubtless, many other worthy members of the profession had conceived the same notion, and it is well known, that in some crude form or other, most of those gentlemen who desire to adorn, rather than disgrace the profession, had hoped that the future would bring forth some institution or association, which might be made available for the perfecting of their acquirement, both in the surgical and mechanical departments. But "*factis non verbis*" appears to have been the motto which Mr. Rymer chose to adopt. Whilst other men contented themselves with thinking the matter over, or at most, putting their thoughts to paper, he dared the danger of defeat, and leaving off *thinking* and commencing *acting*, laid the foundation of this edifice at his own risk. Here then lies his praise; to this fact his name will ever be attached; and for this effort, he certainly deserves the thanks of every gentleman in the profession, who desires to see his chosen calling wrested from the gripe of the unprincipled and unqualified practitioner.

That Mr. Rymer had thought and pondered over the possibility of establishing an institution of this kind and calibre, may be gathered from the fact, that in August, 1855, he published his views on the necessity of reform, and laid down lines of conduct which he considered it advisable to pursue, in a letter addressed to the editor of the *Lancet*.

That others, also, were of like opinions, may be proved by consulting the same journal for the ensuing month, as there may be found a letter from Mr. D. Mackenzie, entirely agreeing with the first writer. But it is very evident that these epistles did not produce results in harmony with the desires of the writers, for the surging wave of passing events threw nothing upon the shore which could be made available, and it was not till September, 1856, that we find anything tangible evolved. The *British Journal of Dental Science* contained in its second number (August, 1856) a letter from Mr. Rymer, in which he reiterated his views, and concluded by expressing his readiness to co-operate with his professional brethren in the formation of a Society of Dentists. The following number of the *Journal* contained an advertisement, announcing Mr. Rymer's intention of calling a public meeting of the profession, on the 22d of September, at the London Tavern, Bishopsgate street, and asking for the attendance of such as sympathized with the contemplated projects.

The result of this advertisement was a copious correspondence on the subject, evincing a general desire that the object the advertiser had in view might be carried out, but in some instances, (as was expected,) depressing doubts and prophecies of ignominious failure, were by no means forgotten. Selecting the names of those who appeared most energetic in the cause, Mr. Rymer requested their attendance at a preliminary meeting, to confer upon the most appropriate method of conducting the forthcoming assembly. This meeting was convened for Saturday, the 20th September, at the London Tavern, and those who answered to the summons were as follows:—Messrs. Perkins (Hockley Hill) Brindley (Sheffield), Smith (Chatham), Bradshaw and Bate (Brighton), and Rymer.

Mr. Perkins, as the senior person present, occupied the chair. Such arrangements as were deemed necessary, were then agreed upon, and this, the first meeting of gentlemen, (who were, with two or three exceptions, unknown to each other), passed off with a spirit of cordiality and thorough good will, such as might have been expected only from and among friends of many years' standing—in itself a type and pledge of what would follow.

Those gentlemen, then, who formed this little convention, had ample cause for congratulation; for, although in itself unostentatious enough, it was *the first stone* in the high wall of isolation loosened and thrown down—the *germ* of brotherly feelings, which was destined in its growth, to eradicate the ancient spirit of jealousy and distinction, which so highly colored and completely pervaded the dental profession.

The experiment of testing the views of dental practitioners, was now about to be performed; and the two short days which intervened, were days of anxiety to the few more immediately concerned. At length, the eventful Monday evening came; clad in wet garments, and with a look, dismal enough to dispirit and becloud the hopes of men depending upon far more substantial and united patrons for support, than those who, now more anxiously than ever, awaited the result of the notice publicly advertised, of this, their introductory meeting. The time wore on, and one by one (despite the wind and weather) the audience increased, until the room was *well filled*; some of those present having come very long distances, to testify in person to the necessity of professional reform and education. The gentlemen who had met on the previous Saturday, had decided that three concise, yet comprehensive propositions should be laid before the meeting. Several copies of these had been printed, but it was necessary to procure movers and seconders, and this Mr. Rymer succeeded in effecting, by making personal application to several parties present. At the hour announced, Mr. Alfred Carpenter, M. B., was proposed, and unanimously elected to fill the chair. This gentleman, in his address, explained, that “he was not a dentist, but as a medical practitioner he took a lively interest in the movement;” and as an impartial person, no doubt the selection of a gentleman out of the profession (so to speak) was a judicious one, in the absence of a dentist of the highest standing.

Mr. Rymer (who was warmly received) explained the reason which induced him to undertake the responsibility of convening the meeting, and proceeded to show why it was important that a step like the present should be taken. The three resolutions were then passed; the tendency of which was, that—1st, Reform in the profession was necessary; 2d, That immediate steps should be taken to produce that reform; and, 3d, That a committee to consider the best means of carrying out these ideas should at once meet for that purpose.

The speakers on the occasion were Mr. Thomson (Denmark-hill) and Mr. Peter Matthews, as mover and seconder of the first resolution; Mr. Makenzie and Mr. Alfred Hill, as mover and seconder of the second, and Mr. Hockley and Mr. Perkins, as mover and seconder of the third. The meeting was addressed by other practitioners, and the unanimity and enthusiasm which prevailed, must in itself have been a reward to all who had a share in the matter.

The third resolution, which was, as a matter of course, the crowning one, involved little trouble to the parties proposing it.

Without it, the two former ones would have been null and void ; and therefore, as soon as the bare formality respecting it had been gone through, in the most liberal manner imaginable, the names of certain gentlemen were put forward from the body of the meeting, and received, for the purpose of forming the committee. These were as follows :—Messrs. J. Bate, S. Cartwright, C. J. Fox, A. Hill, S. L. Jacob, D. Makenzie, Bradshaw, Coker, W. Harnett, Hockley, A. Lowe, P. Matthews, W. Perkins, S. L. Rymer, C. Stokes, R. Thomson, R. White, Rogers, E. Saunders, J. Jones, Watt, and C. Vasey, with power to add to their number.

Letters were read during the proceedings from Mr. Charles Stokes, Mr. F. J. C. Scott, Mr. White and Mr. Edwin Saunders, all expressing approval in the movement.

A letter also was read from Mr. Thomas Bell, declining to take part in the affairs of the evening ; and it must be here stated, that the offer of *presiding* had been made to this gentleman, which had also been declined.

Towards the latter part of the meeting, a statement was made by a gentleman present, that certain practitioners had taken up the idea of professional reform ; and to this end had memorialized the council of the Royal College of Surgeons, praying for a special examination in dental surgery, as in midwifery.

This announcement created a degree of surprise, on account of the *privacy of the act*, and its consequent reflection upon the profession generally. The hitherto uncared for members of this branch of surgery awoke to the astonishing reality, that a small number of their body had gratuitously and secretly become the foster parents of the rest ; and had actually taken steps in the direction of tutoring them as to the *only* means of becoming recognized and qualified practitioners of dentistry.

That the Royal College of Surgeons could not grant a petition *thus* presented, seemed patent to all present ; and the irritating tendency of this effort was subdued by a seemingly general persuasion, that it would never realise the hopes of the petitioners ; and so with the barest comment, this startling intelligence faded and died out.

The Provisional Committee elected, Mr. Rymer was requested to act in the capacity of Secretary. To this, he assented, but stated, that as his time was much occupied, and his health not strong, he should require the assistance of a colleague. Whether or not this observation was forgotten by the audience it is not easy to say ; but it is very *certain* that *no one* offered to share the difficulties and duties of this now important post ; and it is therefore but an act of simple justice to Mr. Hill, who has so assiduously maintained that position, to say that he patiently waited until the assembly was about to disperse before he offered his services, which were most readily accepted by Mr. Rymer.

Thus, then, the men were supposed to have been found who, for the love of their profession, and an earnest desire for its more extended usefulness, were ready to devote a portion of their influence and time to effect the organization of an honorable and scientific pursuit ; and

render the persons engaged in it a more amalgamated and less jealous body. The observations of the speakers (in one direction at least) pointed to the hope, that before long an institution would be established, with professorships and such other offices attached, as would tend to impart a dignity to all connected with it. The names of those practitioners, who, by their scientific researches and discoveries, had deservedly received the undivided admiration of the entire profession, were brought forward as those who would best grace the professors' chairs; and not a few present on that eventful occasion, congratulated themselves that there were gentlemen on the committee, to whom they might look with a full assurance of hope. The object was of the highest importance; the effort to obtain it most laudable; a little help from such as had wealth and position and acknowledged influence, was as natural for the one to look for as the other to give. True it was, that the professional dignitaries were placed above the necessity of alterations; true, again, that that elevated position enabled them to smile at the less fortunate practitioners, toiling up the hill, surrounded with incumbrances and disappointments; but no less true the simple expectations that these same individuals, who, by force of circumstances singularly fortuitous, in days when competition in the dental community (then but small) was unknown, had gotten for themselves the lion's share, would *now* exert a little finger's strength to rectify a multitude of glaring errors. Unfortunately for these hopeful, hoping ones, the so-called leading men in the profession were not present in person; but yet they could not doubt the result of this public appeal to their generous sympathies,—they had only to be made acquainted with the great desire evinced on the occasion, to concur and blend their energies with the common cause.

Certainly the meeting was called at the instigation of a non-metropolitan member of the profession; but surely it could not be a matter of consequence *who* set the ball of reform in motion, so long as it *was* set in motion. Certain, again, that the convention had not been announced by sound of trumpet, but it was so announced, that a hundred out of those who came to know of it, assembled at the prescribed place and hour. An opportunity was then given for *any* member of the profession, gentle or simple, to be present; and those who either could not or would not come, must not grumble that things went on without them. Here was an open meeting, to *discuss merely* the best method of making the wretched state of affairs, which was acknowledged by all to exist, better. The projector of the meeting, like many more at that moment, knew only a few practitioners personally, and a few more by other means; and to these invitations were sent, that they might come and assist in the deliberations of the evening. As before mentioned, Mr. Thomas Bell was invited to preside, evincing, on the part of Mr. Rymer, a very laudable desire to have the benefit of that gentleman's matured judgment, to guide the opinion and resolutions which would be put forth on the occasion; unfortunately, however, for reasons of his own, the offer, as before stated, was declined.

Had any of the leading members of the profession appeared, there was all the opportunity that could be desired to mould the materials then in hand into another form; and certain, beyond doubt, it is, that

Mr. Rymer would willingly have submitted to the *better* judgment of any of them who might have come forward; but as none of them did so, the parties then present combined to do for themselves what, if they chose, others might have done for them; and although stigmatized as "*democratic (?)*"—as the meeting has since been—that part of the profession, so comprehensive and vast, desiring alteration and improvement, will have no occasion to find fault with the materials employed to effect it.

Thus far Mr. Rymer has acted in accordance with views he had entertained for some years; and the success which, up to this point, attended his effort, was a precursor of similar success in future; when having gathered others round him, that movement which he had set in motion, but *single-handed could not keep in motion*, should progress and develop itself, attended by the good wishes of every true friend to the dental profession. That mighty power—"THE SPIRIT OF THE AGE"—demanded *reform*; and, as now shown, it did not ask in vain.

The following is the "declaration" made by gentlemen on their admission as members of the College:

"In consideration of my being admitted a member of the College of Dentists of England, I hereby undertake and agree never to insert any advertisement or advertisements (excepting such as may be approved of by the Council of the College) in any paper; nor to circulate handbills, exhibit show-cases, boards or placards, or to follow any other profession, business, or calling, whilst practising as a dentist, or to do anything that may be in opposition to the 8th and 9th laws of the said College; and in the event of my departing from this agreement, I authorize the Council of the said College to advertise my name in the public papers, as being no longer a member of the College of Dentists of England, immediately upon which I agree that my subscription or subscriptions shall become forfeited to the College."

(Signed.)

The following speaks for itself:

"COLLEGE OF DENTISTS OF ENGLAND,
"5, Cavendish Square, W.

"SIR—The attention of the Council having been called to your mode of practice, I am desired to inform you, that inasmuch as they consider such to be in opposition to the 8th and 9th laws of the College, they wish to know whether you are ready to sign the enclosed declaration; as by these laws all members pursuing a similar course are no longer eligible to be members of the College. Awaiting your reply,

"I am sir, yours faithfully,

"ALFRED HILL,

"Hon. Corresponding Secretary.

"P. S.—Should you not return an answer to the above within a fortnight from this date, the Council will consider that you decline to sign the declaration."—*Quarterly Jour. Dent. Science, London.*

SOCIETY OF DENTAL SURGEONS.

[The annexed we clip from a newspaper. We need not reiterate that we belong to the progressives, and that all such movements have our best wishes for success; such sentiments we have expressed again and again, and we need only say to the gentlemen comprising the "Pennsylvania Central Society of Dental Surgeons," go on, keep up your meetings, and bring to them all the information you possess, and let there be a union of interests in the advancement of the science you profess to practice.—ED.]

At a meeting held May 6th, 1857, in the office of Dr. J. W. Crawford, in Tyrone City, at which were quite a number of dentists;

On motion, Dr. D. S. Hutchison was called to the chair, and Dr. S. Kimmell was elected Secretary.

The President in a few very appropriate remarks, stated the object of the meeting, which was to organize a Society of Dental Surgeons, for the purpose of the mutual improvement of its members.

On motion, a committee was appointed to prepare and report a Constitution to this meeting. The committee retired a short time to discharge the duty assigned them, and then, on leave, Dr. Crawford, as chairman of said committee, reported a constitution, which was unanimously adopted.

The meeting then proceeded to the election of officers, to serve during the ensuing year. The result being announced, it was found that Dr. D. S. Hutchison was elected President, Dr. J. W. Crawford, Vice-President; Dr. S. Kimmell, Secretary, and Dr. W. S. Bitner, Treasurer.

On motion, *Resolved*, That this Society shall be known by the style and title of the Pennsylvania Central Society of Dental Surgeons.

Resolved, That the first meeting of this Society, after its organization, shall be at Tyrone City, on the 8th of July next, at 10, A. M.

Resolved, That all dentists who feel an interest in the scientific improvement of the profession, are cordially invited to attend the meeting of this Society, on the 8th day of July next.

Resolved, That a vote of thanks be tendered to Dr. Crawford, for his kindness in furnishing his office for this meeting.

Resolved, That these proceedings be published in the *Tyrone Herald*, *Johnstown Echo*, *Altoona Tribune*, and *Hollidaysburg Register*.

On motion, adjourned.

D. S. HUTCHISON, *President*.

S. KIMMELL, *Secretary*.

American Dentistry.—The Paris correspondent of the *New York Journal of Commerce* says:—"A few days ago, I had occasion to apply to the principal Paris bookseller in the department of medicine, for some recent, comprehensive and elegant work on dentistry. He wrote me at once the following reply: 'I regret it is not in my power to meet your wishes; there is nothing recent nor good in France on the art and science of dentistry. Our surgeons are obliged to borrow from the Americans their proficiency and treatises on this subject, acknowledging that your countrymen are much further advanced than they themselves are in this important branch of the medical art. It is

unnecessary for me to mention to you works published fifteen years ago.' Your dentists may be gratified by this testimony. The success of the Americans of the profession, who have settled in this capital, is strong evidence of the justness of appreciation. We can adduce the names of Evans, Horner, Fowler, as pre-eminent. British and French practitioners seek Americans as associates in business, not merely on account of their skill, but because of American repute."

Sizing for Plaster Models.—By J. M. SLATER, Hanley.—Allow me, through the medium of your journal, to make known to my professional brethren the following simple and very economical recipe for preparing plaster models. Most of the profession know how disagreeable it is to have the hands and work-bench chalked over by the constant use of the model, (especially if the model has been dried too quickly.) By washing the model well with the solution, the plaster receives a smooth and glossy face, which makes it more pleasant to handle, and also prevents it from imbibing the moisture from the sand when taking the zinc model. The following is the manner of preparing the solution: Take of soft soap $\frac{1}{2}$ lb., water 3 pints, put the whole in a brass kettle, and simmer till the whole is dissolved, then add a candle and a half (of sixteens), stir it frequently till the tallow is well incorporated with the soap, and let it simmer till it is reduced to about a quart, pour it into a jar or pots and keep it from dust. I have always used it after the model has been dried; when taking the bite, I use it instead of oil, as the pieces separate more easily, and there is no necessity for waiting till the first part is dried; a fine sponge is used for putting on the solution, and another dipped in clean water and squeezed as dry as possible in order to wipe it dry."—*Brit. Jour. Dent. Sci.*

EXTRACTS FROM THE DENTAL PERIODICALS.

BRITISH JOURNAL OF DENTAL SCIENCE.

We have received the March, April and May numbers of this Journal, from which we make the following selections from the proceedings of the "ODONTOLOGICAL" SOCIETY OF LONDON.

March 2.—Mr. Shelley then read a paper on Dental Exostosis. After referring to our scanty knowledge of the subject, the author discussed the question whether any other morbid growth of the fang existed besides exostosis, and on excluding the disease termed spina ventosa by Fox, on the ground of insufficient evidence of its existence, decided in the negative. The proximate source of the disease was referred to irritation of the periosteal covering of the fang, and its remote causes reviewed under two heads, viz: First. Those induced by lesion of the crown; and in the second place, those arising primarily in the periosteum itself. Under the first head were included caries and wearing down of the crown by mastication, a remarkable instance of the latter being exhibited in the skull of an Esquimaux, which was presented to the notice of the Society. The causes of the disease in those cases where the body of the tooth is sound, comprising the second division, might be referred, in many instances, to the organ being deprived of the assistance

of its neighbors in the work of mastication ; but in others, no adequate cause being discoverable upon the closest scrutiny, the disease must be, for the present, considered to arise spontaneously. The seat, structure and microscopical appearance of the hypertrophied tissue were detailed, and after adverting to the histological elements of the healthy periosteum, the formation of the additional deposit of cement was described. The seat of this deposit the author found to be in those small masses of "coagulated lymph" frequently attached to the fangs of teeth subject to long-continued irritation, and from a careful microscopical examination of these, the following history was derived : Inflammation excited by some casual or permanent irritation is set up in the periosteal covering of the fang, and its usual products effused into the fibrous tissue, of which it is formed. These products, consisting of a granular blastema and exudation-cells, undergo a transformation into white fibrous tissue. This latter becomes infiltrated with a granular matter, and by it is hardened and condensed into a gristly, cartilaginous matrix, in which the ossific matter is deposited. These changes were illustrated by drawings of the different stages, as seen under the microscope. The condition of the alveolus in which this took place was also shown to be altered, being first excavated to make room for the "coagulated lymph," and afterwards, upon the subsidence of inflammation, becoming closely applied to the exostosed fang, whilst the cancelli previously enlarged became ultimately filled up by bony tissue, rendering the surface of the alveolus smooth and even. Finally, the indications of treatment founded upon these pathological observations, were considered by the author to be to remove every source of irritation—1st, by the proper treatment of caries ; 2d, by obviating undue pressure on the tooth ; and 3d, to reduce inflammation, by frequent topical depletion.

April 6.—In the absence of the author (Mr. MacLean), Dr. Barnett read the paper "On the systematic removal of the four permanent first molars at an early period, in overcrowded arches, especially when attacked by caries." The author commenced by stating that he was far from advocating any officious interference with nature ; that so long as the teeth in question, though affected by caries, appeared capable of being saved, or the arch, though limited in extent, seemed likely in time to develop itself sufficiently to accommodate the full number of teeth, so long he advocated non-interference, as from practical observation he had full confidence in the power of nature to place the teeth in their normal position in arches of sufficient capacity. He next proceeded to detail the advantages connected with the practice he advocated. These advantages are as follows :

1. The prevention and connection of the simpler forms of irregularities in the easiest and most desirable way, in a great majority of cases, without the aid of mechanical means, in all in such a manner as least to disfigure the appearance of the mouth.

2. The promotion of a healthier state amongst the remaining teeth, and an increase in the facility of treating caries when it presents itself.

3. The prevention of the distressing, and in some cases even very serious symptoms, which frequently accompany the development of the wisdom teeth in overcrowded arches, and a material diminution in the chances of the formation of sinuses in after life.

The statements of the author were supported and illustrated by casts taken before and after the operation in question had been performed, and exhibiting its beneficial results, and also by others, showing the effects of a different line of treatment, in which sound anterior teeth had been extracted for the cure of irregularity, and diseased first molars left.

The paper elicited a lengthy discussion, which we have not room for.

May 4th.—Mr. Arnold Rogers, in compliance with an intimation given by him at a previous meeting, stated the results of his experience on the subject of Mr. MacLean's paper—the removal of the six-year-old molar for the cure of deformity. In an early stage of his practice, he said, it was no uncommon thing to see the twelve-year-old molar at an angle of 45° ; it became loose at an early period, and was lost at the age of twenty-five or thirty, or if not, there was so great an accumulation of matter from the food as to soften the second bicuspid. He was soon convinced that the method of practice then usually adopted was not desirable to follow; and his system, accordingly, was to preserve all the teeth as long as possible, allowing nature to correct the evil of a crowded mouth by an expansion of the jaw bone. He should never remove the six-year-old molar for the mere cure of irregularities of the mouth. In the case of disease, that tooth should of course be removed, rather than a healthy bicuspid. He was careful to allow nature to exercise all her functions to the latest period, before extracting any teeth. In prematurely removing the six-year-old molar to cure deformity, there was a danger of shortening the face, and causing the chin to project.

We notice, in the same Journal for May, an "Army Medical Circular," issuing from the director-general of the army medical department, calling the attention of every medical officer in Her Majesty's service to the improvements made of late years in the practice of dentistry, and setting forth the advantages to be derived from an introduction of these improvements into the army. He says:

"Amongst the advances made of late years in conservative surgery, not the least remarkable and important is the successful application of mechanical ingenuity and skill, whereby the necessity, formerly considered almost imperative, for the extraction of teeth affected by caries, has been in a great measure averted.

"This improved dental surgery has rendered the measure of extraction, formerly the rule, the now rarely occurring exception, at least as regards certain classes, and this better practice must be regarded as likely to exercise an influence, by no means slight towards the improvement of the health of that favored portion of the community, whose means admit of recourse being had to the aid which skilled dentistry supplies for the preservation of the teeth." * * *

"I am, therefore, most anxious that military medical officers should give the subject their best attention, as I am of opinion that a considerable gain to the service, besides comfort to individuals, would accrue from a more improved practice in dental surgery than that which has hitherto obtained in military life.

“Operations, simple in their mode of performance, which are now altogether neglected by practitioners, unless by those members of the profession whose branch of practice is exclusively the diseases of the teeth, will, if carefully practised in the service, exercise, I feel convinced, a not unimportant influence on the efficiency of regiments,—will obviate the necessity of having recourse to the forceps in numerous cases,—and will add to the comfort and health of the soldier.” * * *

We are glad to see the medical profession thus waking up to the improvements in, and importance of the science of, dentistry, and it encourages the hope that the day is near when the dental practitioner in England will be recognized by the medical fraternity as something more than a *puller of teeth* and a *carver of sea-horse bone*, a favorite view of the practice with the medical press there.

“*The Dental Register of the West*”—for March. In this number we find much we would be pleased to select from, but want of space prevents. Yet a paragraph or two, in a Valedictory Address, by Dr. Watt, we must give, as showing most clearly, we think, the position of dentistry, and its relations to medicine :

“The dental profession, we have said, is a *branch* of the medical. The figure is an impressive one. And who has not seen the branch, while attached to, and a part of the parent tree, languish and pine, for want of a due proportion of the nourishing sap which is appropriated by its more prominent and thrifty comrades? And how often have we seen the same small and stunted branch removed from the parental stem, and transplanted into appropriate soil, where it takes root, grows with the vigor of youth, becomes itself a tree, and stands in majesty and beauty the pride and peer of its parent ?

“Much like this is the history of dental science. While it was cultivated only in connection with general medicine it made but little progress. Dental disease was overlooked, if not disregarded, on account of the claims of diseases more serious and fatal. Operations on the teeth were ignored, because more important ones pre-occupied the mind of the surgeon. To corroborate these statements, it is only necessary to refer to the prominent agencies in the advancement of medical science, the schools and the literature of the profession. Look to either of these sources for information in regard to dental science, and the little you will find will barely repay the research. Indeed, while our *branch* was cultivated as a part of the *parent tree*, the real nature of the most prominent dental disease was not discovered, nor even suspected.”

To the article on “Dental Periodicals,” by Dr. James Taylor—a continuation of the discussion as to the standing and usefulness of certain journals, and their claims to support—we have no reply to offer, having no disposition to discuss the matter further, or until our arguments, as advanced in our January issue, are fairly met and answered.

SELECTIONS AND ABSTRACTS FROM MEDICAL AND OTHER JOURNALS.

BY S. S. W.

It is with deep regret that we announce the death of Dr. S. P. Hullihen, so well and favorably known to the dental and medical profession. The following testimonials to his worth we copy from two of the medical journals of our city:—

“Died at Wheeling, Va., March 27th, 1857, S. P. Hullihen, M. D., aged forty-six years.

“Dr. Hullihen was a graduate of Washington Medical College, of Baltimore, and early in professional life, devoted himself to the specialty of surgery, in which he reached great distinction. He chiefly confined his practice to minor surgery, including the operations of the dentist, the oculist, and general surgery of the head. In these, his fame and popularity had extended far beyond Wheeling, and his death is felt to be a public calamity, in the whole section of country where his usefulness has made him beloved.

“The death of Dr. Hullihen will be a great loss, especially to the profession of the dentist, in which he was eminent, and in which he had made important discoveries and inventions.”—*North Am. Med. Chi. Rev.*

“Dr. Hullihen had acquired great reputation as a dentist, and also as a surgeon, and was highly esteemed as a public spirited and honorable man.

“A public meeting of the citizens of Wheeling was convened to concert measures to pay respect to his memory, at which, resolutions were adopted, expressive of the sentiments of the community, and in favor of erecting a monument in testimony of their respect for his memory.

“The medical faculty of the City of Wheeling, the City Council, and the Wheeling Hospital Association severally held meetings, at which, resolutions were adopted, expressive of their regret at the death of Dr. H., and testifying respect for his memory.”—*Med. News.*

Clinical Lecture on some of the effects produced by Carious Teeth.—Delivered at the Leeds School of Medicine, Jan. 24th, 1857, by SAMUEL SMITH, ESQ., F. R. C. S., Senior Surgeon to the Leeds General Infirmary, and Lecturer on Midwifery at the Leeds School of Medicine.—GENTLEMEN.—On the present occasion, it is my intention to describe to you some of the effects produced by carious teeth, the causes of which are occasionally overlooked by practitioners; and I am induced to do this by the occurrence of a case which came under my observation on my last admission-day.

“Case 1.—Elizabeth H.—, aged forty, was sent from some distance in the country to this Infirmary, December 12th, 1856, to be treated for what she was told by a medical practitioner was a cancerous tumor in the cheek. On examination, a tumor, the size of a small

chestnut, was found, with an ulceration of the mucous membrane, just fitting the sharp edge of one fang of a carious molar tooth of the lower jaw, which was making its way from the gum. Being fully assured, from former experience of many cases of a similar kind, that this was the sole cause of the tumor and ulceration, I removed the tooth, and in your presence promised her it should be well in a few days. A little lotion was ordered for the mouth. She appeared again on the next out-patient day, December 17th. The ulceration was healed, the tumor gone, and she was discharged cured.

“Now, gentlemen, I tell you that if the cause of that tumor had been overlooked, no treatment of any kind would have been of the least use; it would have continued, it would have increased, and gone on from bad to worse for months, and possibly for years, unless the tooth had been removed by the efforts of nature. I could tell you of scores of cases like the above; one more shall suffice.

“Case 2.—A gentleman from a distant town, where there is a large hospital, happened to have his leg broken in Leeds, and was in lodgings under my care. His wife came to attend upon him, and she consulted me about an ulcerated tumor in the cheek, which had existed a long time, and for which, she had had the advice of several surgeons, and various applications used without advantage. I detected one fang of a carious molar of the lower jaw laid horizontally on the gum, but adherent and imbedded in it, with the ragged point fitted into the centre of the tumor. I pushed it away with my pencil-case, and the tumor disappeared in a few days. Both these patients were under the impression that they were suffering from cancerous disease.

“Sometimes, instead of the cheek, the tongue suffers from the same cause. I have detected many cases of this kind. One interesting example shall be sufficient to explain such cases to you.

“Case 3.—More than thirty years ago, one out-patient day, my senior colleague (Mr. Hey) informed me that a few days previously he had incised a malignant-looking tumor from the tongue of a young countrywoman, who was a private patient of his; that, to his surprise, in a few days the tumor had sprouted out as large or larger than before the operation; that, as she was not in circumstances to pay consultation fees, he had requested her to be in the house-surgeon's room at twelve o'clock, in order that he might ask Mr. Chorley's opinion, along with my own, on the case. On that day Mr. Chorley did not come to the Infirmary, and I went with Mr. Hey to see his patient. There was a foul, dark, fungoid tumor, which occasionally bled, and from which she suffered much pain during every attempt to speak or masticate food; it was the size of a small walnut. On examining it with the finger, I detected two broken incisors (the middle and left lateral of the lower jaw) leaning inwards, and with sharp pointed edges fitting into the centre of the tumor. I was immediately convinced that these two teeth were the cause of all the mischief, and stated that opinion to Mr. Hey, who appeared doubtful. I said that he would not be justified in applying the ligature, or using any other means, without first waiting to see the effect of the removal of the two broken carious teeth. I never saw the young woman again, but I was informed by Mr. Richard Hey that the teeth were drawn, and soon afterwards the tumor entirely disappeared, without any other means being resorted to.

"Sometimes, carious teeth produce abscesses in the cheek, neck and throat; these burst or are opened, and form fistulous sores, which will remain unhealed for months and years, unless the cause be removed, just in the same manner as you see fistulous openings in the leg in cases of necrosis, and which remain open for years until the sequestrum is removed.

"Case 4.—Soon after I commenced practice, I frequently met a young gentleman of fortune walking about with a piece of black plaster on the left cheek, as large as a dollar. I often wondered what could be the matter, but not being his attendant, I had no business to inquire. After suffering the annoyance of his black plaster for a very long time, and being in London, a friend persuaded him to consult Sir Astley Cooper. He made very short work with him, took his fee, and sent him to a dentist to have a certain upper molar removed, informing him that he would be well in a few days after. His prognosis was verified by the result. This young gentleman is now an old one, and I occasionally meet him; he has never worn his black plaster since, but he has the appearance of a Peninsular veteran who had received a musket ball in the left cheek.

"Case 5.—A few years ago, a middle-aged man, residing in the south, and who travels every year with surgical instruments on sale, after transacting business with me, asked my opinion about a fistulous sore which opened on the middle of his whisker on the right cheek. I introduced a probe, and came in contact with the fang of the last molar tooth of the upper jaw. I persuaded him to allow me to draw it, on the promise that he should be well in a few days. I requested him to write by post on the tenth day, and let me know the result. He wrote to say the discharge ceased the day the tooth was drawn, and that it was perfectly well. Now, here was the case of a person in constant communication with surgeons, selling them daily caoutchouc instruments of his own manufacture. He had suffered for a long period, had often taken advice, but had never had the true nature of his disease pointed out to him.

"Case 6.—Seven or ten years ago, a young woman came under my care at the infirmary, with a fistulous sore in the fore part of the throat, within an inch of the sternum. It had been discharging upwards of a year. I probed it; the instrument could be passed in the direction of the molar of the lower jaw, on the left side. On inquiry, she said that eighteen months before, she had had a tooth drawn at the dispensary, but the fangs of the tooth were left in the jaw. Afterwards, an abscess formed, which descended lower and lower till it burst midway between the sternum and pommum Adami. I drew the stumps; it still discharged for a week or ten days, when it got well without any other treatment. I mention the above case, to impress upon your minds the possibility of the fistulous orifice being at a considerable distance from the offending tooth. The fistulous sores proceeding from carious teeth are generally on the cheek or at the angles of the jaw. On the application of the probe, you will often find the instrument pass readily to the interior of the mouth; you have then only to select the proper victim for sacrifice, and you will rarely err in this respect. Where the sinus from the sore to the tooth

is short, the discharge from the external sore will generally cease in a day or two after the extraction of the tooth, but where it is long, as in the above case, it may be a week or two.

“There is an excellent old adage—‘Prevention is better than cure.’” This applies well to surgery, and especially to such cases as we are alluding to; for as abscess in these cases always precedes the formation of a fistulous sore, it should be your endeavor to detect these cases at this particular period. I find that several cases of this kind come under my observation every year; the last, during the present month.

“Case 7.—Thomas K——, an Irishman, aged fifty, was admitted as an out-patient on the 2d of January. His case is set down as abscess in the cheek. The jaw was closed; he could not open his mouth. He came again on the 7th, no better; and it was not until the 14th, that I detected the true nature of the case. I examined the mouth, and found two detached fangs of a molar of the lower jaw carious and loose; he could not open his mouth sufficiently for the introduction of forceps, but I pushed them out with a punch.

“Jan. 21st.—He says he could open his mouth comfortably the following day; the swelling had gradually subsided, and he was discharged cured.

“Case 8.—A long time ago, a near relative consulted me about an abscess at the angle of the jaw, on the right side. I suspected its cause, for on pressure, I could make pus appear at the edge of one of the molars. He refused to have the tooth drawn until I assured him the abscess would burst externally, and continue discharging till the tooth was removed, and that an ugly scrofulous-looking cicatrix would remain for life. The tooth was drawn; the abscess discharged itself into the mouth, was soon well, and left no mark.

“Now, in both these cases, if the cause had not been detected when it was, in ten or twelve days the abscess would have burst externally, and a fistulous sore would have been the consequence, which would have continued discharging until the teeth had been removed either by nature or art. I have seen scores of such cases. Whenever you extract a tooth in these cases, always examine it carefully; you will invariably find the fang deprived of its periosteum, and sometimes a little sac attached to its root, containing pus.

Sometimes, where abscess forms from a carious molar of the upper jaw, the matter, instead of making its way to the cheek, gets into the antrum. I have seen several cases of this kind, and have at present a private patient under treatment. Remove the tooth, and if this does not give a sufficient outlet for the matter, perforate the antrum with a joiner’s gimlet. There has been a very interesting case of this kind recorded in the journals during the present month.

“Case 9.—A horse was condemned to the knacker’s yard, as being afflicted with glanders, having a foul offensive discharge of purulent matter from the nostrils, and being in the last stage of emaciation. A veterinary surgeon finding it could not masticate its food, examined its mouth, and detecting a carious tooth in the upper jaw, extracted it. The discharge ceased, the horse soon began to thrive and got well. Here was a case in which there was as much professional credit due

to the surgeon, as if instead of saving a horse from the knacker's yard, he had saved the life of an alderman. I was speaking yesterday on the subject to my friend, Mr. Louis Oxley, the dentist, and he related to me a case of such interest that I requested him to write it out for me. Here you have it in his own words:—

“Case 10.—A young woman of rather strumous habit, complained of a dull, aching pain under the orbit. The pain lasted from three to four months, attended by a gradual elevation of the orbital surface of the maxillary. The eye above this surface became at length so affected, as entirely to lose its functions. At this stage of the case, the young woman, who was attended by a general practitioner, who ignored dental surgery and pathology, resorted to leeches, blisters behind the ears, and drastic purges: I need not say ineffectually. After two or three months' loss of the sight, the young woman first perceived a discharge from the right nasal fossa of a thick, purulent fluid. This discharge had existed for eighteen months, when I first saw her, *even in spite of the aforesaid remedies!* An examination of the mouth at once revealed the cause of so much misery, and the removal of three roots in a state of periostitis, was the simple means by which two most important organs regained their proper functions.

“There is another case in which swelling, inflammation, and ulceration at the sides of the tongue takes place, and which does not appear, so far as my experience goes, excepting in individuals approaching to or upwards of sixty years of age; but I have seen several cases of it, and shall proceed to describe the cause. If you will examine the form of the molars of the lower jaw, where they come in contact with the sides of the tongue, you will find the line from the neck to the top of the crown gives a convex outline, so that for thirty or forty years, during the act of speaking or mastication, the sides of the tongue come in contact with a smooth, rounded surface; but the constant grinding of hard food, such as biscuits, &c., for two score years, where all the teeth have remained sound, wears away one-third of the upper part of the teeth, the bony part is worn away deeper by one-eighth of an inch, than the enamel, leaving a sharp edge projecting into the mouth, so sharp that, by firmly pressing the finger and drawing it along the edge, you might cut it to the bone. The friction of the tongue against this sharp edge produces the effect I have described. It is only necessary to round off the edges by the use of a fine file, and the tongue will soon heal. The operation will require to be repeated in a few years.”—*London Lancet*.

Case of late Dentition.—Dr. Deutsch was called in consultation to a man, thirty-four years of age, who for some weeks past had been the prey of intense pains in the head and face, the origin of which he had at first attributed to several decayed molars, the crowns of which were destroyed. There was very great swelling of the neck and face, abundant discharge of saliva, and difficulty of deglutition. But the most remarkable thing was the appearance of several new teeth. Thus, somewhat in front of the incisors of the upper jaw, four new incisors were found irregularly disposed, two in like manner presenting themselves in front of the two middle incisors of the lower jaw. New canine

teeth also appeared in the upper jaw, between the incisors and the canines. In the lower jaw the new canines sprung up from below and in front of the old ones. The two bicuspidis in each jaw and on both sides were pressed backwards by new bicuspidis. With respect to the second molars of the upper and under jaw of the right side, and of the upper jaw of the left side, the new teeth appeared in the midst of the decayed molars, without displacing these, and in such a manner that the remains of the old tooth-walls formed partial envelopes for the new. No new teeth were found corresponding to the first molars, although the old ones were carious, or to the second molar of the lower jaw of the left side. All the third molars were broken away. All the old teeth were so firmly placed as to be removable only by force. The new teeth were very fine ones. From the time of their appearance the patient's suffering ceased, although the effects of this continued some time to be apparent. A skillful dentist gradually removed all the old teeth, and those of the new which had grown out amidst the old were removed with these latter. Some months afterwards, the new teeth had assumed a very orderly position, the separations between them being very slight. The patient does not remember losing teeth at the usual period of the second dentition. The author adds, that in his own case two molars of the lower jaw, which were extracted in his twenty-fifth year, were, in the course of a year, replaced by two new, good, and durable teeth.—*Med. Times and Gaz.*, March 28, 1857, from *Berlin Med. Zeitung*, 1856, No. 43.—*Med. News*.

Amylene.—At the last meeting of the Medical Society of London, Dr. Snow showed a specimen of amylenes which had a less powerful and more agreeable odor than that which he showed to the Society on a former occasion. He said that the change had been produced by great care in its preparation on the part of Mr. Bullock, and that the chief obstacle to the use of this agent was in a great measure removed; and he expected that the odor would be still less when the amylenes could be procured in a state of more absolute purity. He had given the amylenes in sixty-nine operations, and in one case of labor, since he had read the paper on January 10th, making a total of ninety-one cases. The results confirmed what he had stated on the former occasion, as to certain advantages it possessed over chloroform in a number of instances. A little vomiting had occurred in six of the cases; this was much less than would be met with from chloroform, more especially as many of the patients had taken a meal just before the operation.—*London Lancet*, March 7th.—*Boston Med. and Surg. Jour.*

The following comparison of the chief anæsthetics occurs in an interesting paper on this subject, read before the Bath and Bristol Branch of the British Association, by Mr. W. M. Clarke :

“Amylenes, both in its general properties and also in its physiological effects, appears to be more like ether than chloroform. It differs, however, from both. Than ether it appears to be more effectual, much less liable to produce excitement before begetting insensibility, less disposed to cause subsequent unpleasant effects. On the other hand, it

is like ether, in having a very disagreeable odor, in being of low specific gravity and very volatile, in being difficult to administer to a full effect, and in having to be used in very large quantity.

“From chloroform, it differs more. But principally in the same respects that ether differs from chloroform. In short, in its effects it appears to occupy a middle position between the two. To be more effectual than ether. To be less dangerous than chloroform. It is said not to be attended with struggling; not to be followed by sickness; and in the larger number of cases in which it has been given, this has been proved. Dr. Snow has used it in sixty-two cases, and in only two was there any subsequent sickness.”

Partial Dislocation of the Lower Jaw, which occurred in J. S——, a female, aged thirty-seven. By the constant and long-continued pressure of an enlarged tongue, the condyles of the maxilla inferior have been partially luxated from the glenoid cavities, so that this bone has been carried obliquely downwards and forwards, projecting nearly an inch beyond the superior, and forming a prominence beneath the chin. The tongue, which undergoes considerable variation in form and size, being at times so swollen as to protrude from the mouth, was, when measured, three inches in width by three-quarters of an inch in thickness; it was deeply indented by the teeth of the upper jaw. Mastication was exceedingly difficult, her speech impaired, and she suffered from severe facial pains in the vicinity of the articulating surfaces of the jaw. The preceding case is interesting, inasmuch as it affords an additional proof to that already given by Mr. C. Vasey (“Transactions,” vol. vi., p. 172) of the effects of slow and continued pressure of the tongue on the lower jaw. The cases, however, differ, inasmuch as in the instance cited by that gentleman, the protrusion was caused by the cicatrix of a burn, on the neck and chest, together with an altered condition of the alveolar processes, whilst in this, it is the result of partial luxation, without any alteration whatever in the osseous structure.—*London Lancet*.

Fibrous Tumor of the Fauces Successfully Removed.—Last Tuesday week, an elderly man was submitted to an operation by Mr. Skey, with a tumor which had been growing four or five months, situated at the back of the fauces. There was some doubt as to the origin of the seat of its root; but as its early growth was followed by difficulty of respiration in the left nostril, there was reason to believe it originated there. The right nostril was quite free. The growth presented itself at the back of the throat in the form of a large, whitish, round mass, not unlike the peg-top of boys; it pushed the soft palate in a vertical direction; it was firm. It was said to be a fibro-cellular tumor, and proved so; there was nothing malignant nor cancerous about it. Mr. Skey thought the probability was it would not return if removed, from its being fibrous; he did not expect to remove the whole of it, however. He was fortified in this opinion by an observation of Mr. Arnott's, who had an exactly similar case seven or eight years ago, who contrived to remove the greater part of the tumor, partly by manipulation, and partly by cutting with the knife; and years elapsed before any obstruction occurred

in the nasal passages; and he has reason to believe that she is in very fair health. Mr. Skey, therefore, did not hesitate to remove it; and in the event of recurrence some years hence, it would be time enough to do anything. The mouth was kept open by an instrument for the purpose, and the tongue pressed down by Mr. Holmes Coote. The tumor was now partly detached, with forceps and knife, from the soft palate; and its separation accomplished by manipulation and dissection. It was the size of a walnut, and fibro-cellular. Several smaller portions were got away; one especially, from the back of the left nostril, which was pushed backwards through the nose by means of a pair of dressing forceps. The poor man was now enabled to breathe with perfect ease and freedom through both sides of his nose, and lost very little blood. Nearly all of this tumor was removed, which appears to have sprung from the nasal fossæ. Any elaborate dissection in a case of this kind, was quite out of the question: and we have no doubt the tumor may pursue the same course as in Mr. Arnott's case, and the patient may have many years of comfort.—*London Lancet*.

On the Salivary Glands.—The glands whose secretion first comes in contact with the food, are the *salivary*, placed at the entrance of the alimentary canal.

In order to compare their anatomical history with their physiological, M. Bernard gives the opinions that are recorded concerning them, from the most ancient times to the present day. In 1780, by the section of the canal of Steno, in a horse, Harpel de la Chenaie obtained, for the first time, unmixed parotid saliva. In 1846, MM. Magendie and Rayer found that, in the horse, the buccal saliva was different from the parotid saliva, by the property of transforming starch into glucose. Before 1847, no one thought of collecting separately, and in a pure state, the liquids secreted by the sub-maxillary and the sub-lingual glands. M. Bernard was the first to do it in that year, in a dog, and he showed, at the same time, that they differed, in their chemical and in their physical characters, from the parotid secretion of the same animal.

Anatomists and Physiologists have always, so to speak, admitted in the mouth two kinds of salivary glands, having distinct uses: 1st, the muciparous salivary glands, destined to secrete mucus; which are only the bucco-labial and the lingual glandules. 2d, The salivary glands, properly so called, destined to secrete the true saliva; these comprise the parotid, the sub-maxillary, the sub-lingual, and the gland of Nuck. This distinction must be renounced; it can no longer be recognized in science. Relying upon anatomy for the classification of these glands—that is to say, upon their intimate structure—we are forced to deny the existence of any distinctive characters. Examined microscopically, the parotid, the sub-maxillary, the sub-lingual, the bucco-labial, and the gland of Nuck enter, without exception, into the category of *glandes en grappe*, and are constituted, definitely, by glandular vesicles, or *culs-de-sac*, in which are seen epithelial cells containing elementary granulations, and one or, sometimes, several nuclei. Koelliker says, “The *salivary glands*, *i. e.*, the parotid, the sub-maxillary, the sub-lingual, and *Rivini's* glands agree so closely in their

structure with the racimose mucous glands, that it would be quite superfluous to enter into any detailed description of them." (Manual of Human Microscop. Anat., Am. Ed., p. 463.) M. Robin teaches that *every part of the body that has a different function, has a different structure;*" and yet he teaches that all the glands of the mouth have the same structure, and the same anatomical elements. Where these two anatomists are unable to detect any difference of structure, it is not likely that any will ever be found.

Anatomy, therefore, being unable to discover any difference between these glands, experiments must be made upon the living animal, in order to do so.

In the different animals, the *parotid*, its volume and its development, are constantly in relation to the importance and intensity of mastication in the animal. Thus, it only exists in animals that have teeth to grind their food, and it is more voluminous as the trituration is more difficult and more slow. Birds, which do not chew their food, do not have this gland; the gland placed behind the jaw, with them, cannot be considered the analogue of the parotid, and its secretion is very different. In the horse, the weight of the parotid is 400 grammes; of the sub-maxillary, only 86. In the dog, on the contrary, the parotid weighs only 12 grammes, and the sub-maxillary 13. Animals living in water, and which take food constantly impregnated with that liquid, have a parotid extremely small, and sometimes none at all. The particular part performed by this gland is already foreseen by the comparative examination of it, and of the modifications of mastication in different animals. In the same animal the quantity of saliva secreted by the parotid varies with the nature of the aliment, being greater as the food is more dry.*

After having studied the principal uses of the secretion of the parotid, the secretion itself is studied. It is obtained by means of fistulæ practised in the parotid duct; and in collecting it in a dog, it is necessary to push the canula deeply into the duct, for a small gland empties a viscous fluid into the duct, at a certain distance from its orifice. It was this addition that caused the error of Tiedeman and Gmelin.

In order to collect the different secretions poured into the mouth, M. Bernard makes use of a glass syringe, the extremity of which is lengthened, curved to a right angle, and the orifice then widened in the shape of a cupping-glass. Placing the cup-shaped extremity around the orifice of the duct, and drawing the piston, the different secretions can be collected in a man, or in an animal, without any previous operation, and when exactly applied, the secretions are thus obtained perfectly pure.†

* Among the experiments made for the purpose of showing this, there is one that shows remarkably well the fact that thirst is not a local sensation, but on the contrary, the expression of a general demand of the economy for the reparation of liquids. A horse had a fistula of the stomach; when it was open the animal drank constantly, only stopping from fatigue, and recommencing again immediately. The water here passed through the mouth, the throat, the pharynx, the œsophagus and stomach. When the canula was stopped, the thirst was soon satisfied; as it also was when water was injected into the veins.

† It may be noticed here that the earthy phosphates entering into the composition of the tartar for the teeth, are not derived from the saliva, according to M. Bernard, but are an abnormal secretion of the alveola-dental periosteum.

The different salivary liquids cannot be distinguished from each other chemically ; physically, they can.

The saliva of the parotid gland is entirely aqueous ; it contains, in variable quantity, a matter analogous to albumen.

The saliva of the sub-maxillary is rather fluid ; it contains a matter that becomes more viscous, and when cold, gelatinous.

The saliva of the sub-lingual is very viscous, and it becomes still thicker by cooling. That of the gland of Nuck, and of the buccal glandules is the same.

The principles giving these different physical properties must be sought for in the tissue itself of the gland. By taking the glands, and making infusions of them, we obtain liquids exactly analogous to the liquids secreted by the glands, and that give the same reactions as the natural salivas. The characteristic matters are in the glandular tissue. This is true, also, of the glands of the stomach and of the pancreas. The physiological phenomenon of secretion consists, then, in the creation in the gland of the matter by which the secretion is characterized ; the mechanical phenomenon of secretion consists in dissolving this matter in an alkaline vehicle that comes from the blood, and in expelling it, not from the circulating fluid, but directly from the glandular organ in which it is found, formed there by morphological development.

The peculiar part performed by the secretion from the sub-maxillary gland, is in the gustation of the food. This was discovered by experiment, and, as usual, comparative anatomy supports the doctrine. In carnivorous animals, for example, the sub-maxillary gland is largely developed, while in granivorous birds it almost disappears.

The *diastase* said to be found in the saliva, the *total saliva*, as M. Bernard expresses it, is evidently the result of an alteration, or of a spontaneous decomposition of the ptyaline, or of other salivary matters. The serum of blood has this same property, of converting amylaceous substances into glucose ; the contact of the mucous membranes is also sufficient—an injection of starch, for instance, is often returned in the condition of *eau sucrée* ; the same is true, also, of the same substance thrown into the bladder.

The most decisive experimental proof shows that the part of the salivary liquids is purely mechanical, as the ancients taught. They serve in mastication, in gustation, and in deglutition.*—*Ext. from Review of Bernard's Lectures on Experimental Physiology.*

Comparative Embryology.—When Vick—d'Azier, preparing the way for Comparative Anatomy, had commenced to point out the analogy between the superior and inferior extremities in the human species, other naturalists affirmed that the jaws might be considered as two pair of appendages, having the same significance as the locomotive organs. This new mode of recognizing parts, which, up to that time, had been regarded in an opposite point of view, was found to be conformable to the true nature of things ; and, in the structure of the mouth of certain insects, in which these are found isolated and movable, a proof is found,

* It may be noticed that M. Bernard believes *ranula* to be a dilatation of the small lobules of the sub-lingual gland, in consequence of obstruction of the small ducts of Rivinus.

the authority of which has already been invoked. But, we must confess, when so bold an idea was first announced, it appeared strange that it should have been conceived; because, as before stated, it required great mental independence to escape from classic habits, and recognize the maxillary bones, in the human species, united into one and profoundly concealed in the tissues as having any analogy with locomotive appendages. Nevertheless, embryology leaves no doubt upon this point. It shows that, in the embryo of vertebrates, and in man himself, the masticatory apparatus is formed, in the beginning, by fleshy buds, similar to those from which, at a later period, the extremities are developed. It is only at a more advanced epoch that these buds, or maxillary appendages, combining with the incisive germ, causes the masticatory apparatus to lose this primitive transient form, and present the characteristics which the mouth preserves in the adult.—*Ext. from Dr. Robertson's Trans. of Coste's Comparative Embryology—Charleston Med. Jour. and Rev.*

Facial and Dental Neuralgias.—Doctor Michel Andre recommends the following mixture for prompt relief: “Extracts of Opium, of Belladonna and of Stramonium, each one part; Laurel Water, twelve parts. A few drops are placed in the meatus auditorius, and cotton is placed in the passage, taking the precaution to hold the head on the opposite side for a few moments, that the fluid may pass freely into the canal.”—*Philada. Med. and Surg. Jour.*—*Revue Therapeutique.*

Effect of Alcohol on the Brain.—“Hyrtyl, by far the greatest anatomist living, often said to us, that by a single stroke of the scalpel, in the dark, he could distinguish the brain of an inebriate from that of a person who had lived soberly. Now and then he would congratulate his class upon the acquisition of a drunkard's brain, admirably fitted, from its hardness and more complete preservation, for the purpose of demonstration. As is well known, when the anatomist wishes to preserve a human brain for any length of time, he effects his object by keeping the organ in a vessel of alcohol. From a soft, pulpy substance, it then becomes comparatively hard. But the inebriate anticipates the anatomist, while the brain remains the consecrated temple of the soul—while its delicate and gossamer tissues still throb with the pulse of heaven-born life. Terrible enchantment, that dries up all the fountains of generous feeling, petrifies all the tender humanities and sweet charities of life, leaving only a brain of lead and heart of stone.”—*Atlanta Med. and Surg. Jour.*

Electric Gilding, Silvering and Platinating.—“M. Landois, of Paris, announced to the Society for the Encouragement of National Industry, at their session of 25th December, 1855, that he had obtained a gold, silver, and platina bath, having no deleterious exhalation, and capable of depositing solid coating upon the metals. M. L. dissolves a given weight of cyanide of gold, silver, or platina, in a saturated solution of common salt; the solution is filtered, and may be then used. The galvanic deposit takes place cold very rapidly, and the results are equal to those obtained by MM. Ruotz and Elkington.”—*Jour. Franklin Institute.*

PATENT CLAIM.—*For an Improvement in Dental Forceps.*—"Connecting the handles to the head pieces of the instrument, by means of suitable joints and appendages, arranged in such a manner that the shape of the instrument can be so changed as to adapt it to the drawing of upper or lower teeth. Also, combining the beaks with the dental forcep, in such a manner that their length can be increased to any desirable extent."—*Jour. Franklin Institute.*

The Secret of Success in Tempering Tools.—A correspondent, D. I. Wells, of Bolivar, Tennessee, writes us a few words respecting tempering steel tools. He says:—"The main thing in tempering is striking the right heat. From long experience, I have found that the lowest tempering heat at which steel will harden, when taken out of the fire and dipped into water, is the best. A little experience with any piece of steel will show this to be so, and different kinds require different degrees of heat. It is a mistake to suppose, that by raising the temperature of steel for tempering, very high, that it will become harder, and of a better temper. Steel is rendered more brittle by a high heat, but no harder. As to the chilling medium, I know of nothing better than clear, cold water."

These views of our correspondent agree with those of one of the most skillful and experienced English steel-makers—one who stood in the very first rank in Sheffield, and who is known here as one of the best judges of steel in our country. He told us, in conversation, that every kind of steel required a different degree of heat in tempering, but the lowest heat possible was the best, and the very finest steels required the lowest.—*Scientific American.*

SUMMARY.

Donovan's Solution is recommended for the relief of toothache from exposed nerve. The *London Lancet* states, that out of about 1,500 practitioners of dentistry in England, only about 30 at the most possess diplomas of the College of Surgeons.

Mr. Monod, of the *London Lancet*, remarks that the touching of the bottom of the throat removes with facility the anæsthesia induced by chloroform, and is one of the best means of awaking consciousness in patients too strongly influenced by anæsthetics.

A case of angina, in a man, aged 32, complicated with gangrene of the mucous membrane of the mouth, terminated in recovery under the use of *bromine*.

Experiments have proved the interesting fact that fine silver, exposed to the air in a state of fusion, absorbs oxygen gas, and gives it out again in the act of consolidation. The quantity of oxygen thus absorbed may amount to twenty-two times the volume of the silver.

A vulgar mind contends for honor without merit. *A noble mind* scorns the laurel without the labor.

This book must be returned to
the Dental Library by the last
date stamped below. It may
be renewed if there is no
reservation for it.

JAN 20 1978

HRA:

The Dental News Letter. v. 7-10 (1853-57).

Harry R. Abbott
Memorial Library

V. 7-10

(1853-57)

FACULTY OF DENTISTRY
TORONTO

